NEW EQUIPMENT DIGEST

A Penton Publication

April, 1961

Volume 26 — Number 4

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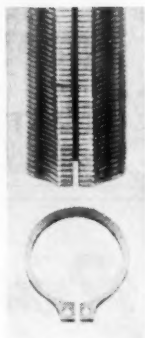
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 104

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

EXTERNAL RETAINING RINGS
prestacked for installation ease



Series 3100 external axial assembly retaining rings are now available prestacked for use in automatic and semi-automatic assembly systems. They cannot become entangled, and inventory is simplified because of 250 count in each stack. Rings are available from stock for shaft diameters from 0.25 to 1.375 in. • **Industrial Retaining Ring Co.,** 57 Cordier St., Irvington 11, N. J.

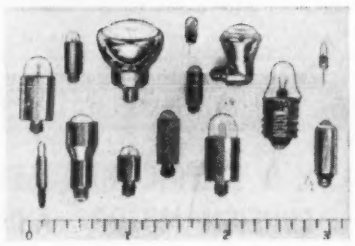
▲ For more details circle **NED-1 D1** on enclosed inquiry slip ▲

ANTISLIP COATING
makes slippery surfaces safe

Applied like paint, Dura-Grip surface coating compound reduces the slipping hazard on slippery stairways. Abrasive grit is sprinkled over the first coat while material is still wet. After drying, a second coat is applied to seal in the grit particles and provide a firm base for underfoot safety. It can also be applied to steel toe plates worn smooth by heavy foot traffic. • **Mine Safety Appliances Co.,** 220 N. Braddock Ave., Pittsburgh 8, Pa.

▲ For more details circle **NED-2 D1** on enclosed inquiry slip ▲

MINIATURE LAMPS
for pilot and spot lighting work

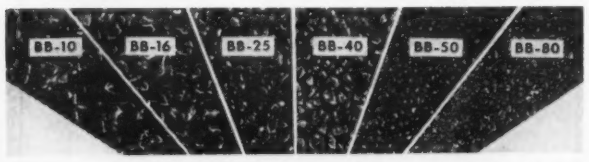


Originally developed for use in medical diagnostic instruments, 14 styles of miniature lamps are proving useful in many industrial and technical applications. These brilliant, durable lamps have projected light beams which are free of filament shadows or other abberations. All are available from stock. • **Welch Allyn, Inc.,** 160 Jordan Rd., Skaneateles Falls, N. Y.

▲ For more details circle **NED-3 D1** on enclosed inquiry slip ▲

SANDBLASTING GRIT
quickly strips rust, mill scale

Black Beauty sandblasting grit for efficient paint or rust stripping and mill scale removal produces a minimum of dust and is devoid of any silicosis health



hazard. Grit requires no special equipment, is reusable, and is impervious to moisture. It is offered in several grain sizes, the correct one of which is easily chosen with the help of a free sample kit. • **H. B. Reed & Co.,** 6937 Kennedy Ave., Hammond, Ind.

▲ For more details circle **NED-4 D1** on enclosed inquiry slip ▲

FORGED SHOVELS
I-beam reinforces handle

An I-beam reinforcement minimizes handle breakage of line of taper rolled, forged shovels. Socket design is modified to receive a straight chucked ash handle into which is slotted an I-beam support. I-beam consists of two strips of steel extending from the tip of the handle to a point 3 in. above socket joint. Edges of the inserts are flanged over above the socket joint to match the contour of the handle. Assembly is anchored at one end only by two rivets through the socket, handle, and I-beam. Carbon steel blades are taper rolled from center to sides and from shank to point to put extra metal at wear and stress points. • **Wood Shovel & Tool Co.,** 901 S. Roosevelt Ave., Piqua, Ohio.

▲ For more details circle **NED-5 D1** on enclosed inquiry slip ▲

STENCIL HOLDER & INK
hands remain clear and stay clean

Stencil is clipped into the stencil holder, pressed against the carton to be marked, and then sprayed with quick-drying Crown stencil ink in this rapid, clean, and economical stenciling method. The stencil can be reused up to 2000 times, as the ink does not break down sharp perforation edges. The holder keeps the stencil flat against the carton with one hand which remains clear of spray. Black and colored inks in 16-oz spray cans dry in 10 sec. Maintenance and touchup paints can also be used with the stencil and holder. • **Crown Industrial Products Co.,** Dept. ND-5, 936 Amsterdam St., Woodstock, Ill.

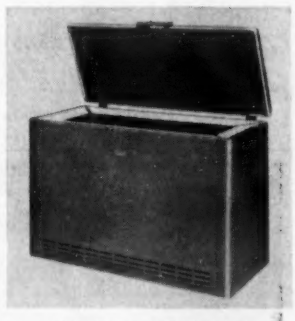
▲ For more details circle **NED-6 D1** on enclosed inquiry slip ▲

MAINTENANCE COATING COMPOUNDS
protect floors, walls, metals

Suited for a wide range of applications, Permatex coating compounds form a permanent bond with stone, concrete, wood, or metal surfaces to which they are applied. Once bonded, the compounds are resistant to water, acids, oils, fuels, and solvents. They will not chip, flake, or crack. A single coating is sufficient for most plant floors, stairs, walls, or other locations where abrasion, compressive loading, and impact are severe. Permatex Flex, Hard, Super Hard, and Clear Coatings are designed for specific purposes. They can be sprayed, brushed, or rolled on, or spread with a trowel. Red, yellow, blue, and gray colors are available. • **Permatex Co., 300** Broadway, Huntington Station, L. I., N. Y.

▲ For more details circle **NED-7 D1** on enclosed inquiry slip ▲

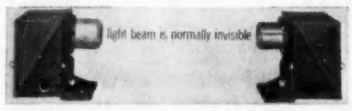
LOW TEMPERATURE CABINET
storage capacity is 6.5 cu ft



Cascade system with no liquid coolant is employed by the Model SZC-859 ultra-low temperature cabinet to attain temperatures as low as −140° F with an ambient of 70° F. Used for research, storage, seasoning, and testing, it has 6.5 cu ft of storage space. An indicator-controller dial adjustment shows temperature at all times. Lid is counterbalanced. Hermetic compressor of the 60 x 28 x 42¾-in. unit operates on 230 v, 60 cycles, single-phase. • **Revco, Inc.,** Deerfield, Mich.

▲ For more details circle **NED-8 D1** on enclosed inquiry slip ▲

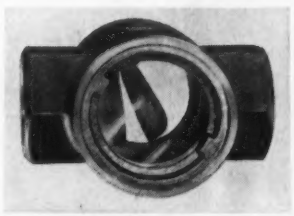
INFRARED ELECTRIC EYE
invisible beam guards buildings



Invisible infrared light actuates this photoelectric control system, designed for the surveillance of buildings, objects, grounds, and other areas. Units are installed so that an invisible beam is projected across the area to be guarded. Anything interrupting the beam triggers an alarm, warning system, or other electrically controlled equipment. Lens of the control is shielded from normal light. Systems are offered for operation at distances up to 30 and 100 ft between light source and control. • **Autotron, Inc.,** Box 722D, Danville, Ill.

▲ For more details circle **NED-9 D1** on enclosed inquiry slip ▲

SIGHT FLOW INDICATOR
equipped with double sight glasses



Liquid flow, its direction, and the condition of the fluid can be seen through low cost Flo-Eye sight flow indicator. It has double sight glasses for clear observation of the fluid even under poor lighting conditions. Easily installed unit has machined recesses and retaining rings for even seating of the glass gaskets to prevent leakage. • **Schutte & Koerting Co.,** Dept. M-V, Cornwells Heights, Bucks County, Pa.

▲ For more details circle **NED-10 D1** on enclosed inquiry slip ▲

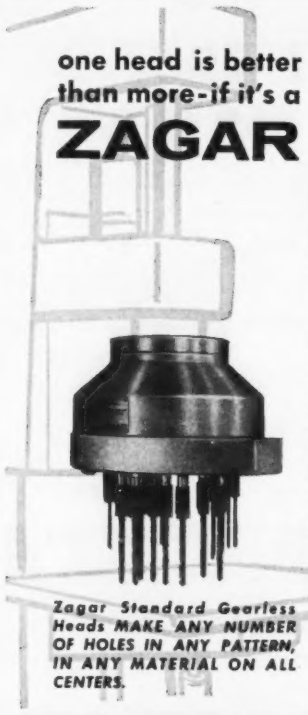
CARBIDE DRILL BUSHINGS
outwear steel types 50-fold

Several types including head and headless press fit, fixed, and slip renewable are offered in this line of tungsten carbide drill bushings. They are made in a complete range of ASA and American Standard sizes, and can be supplied from distributors' stocks. • **American Drill Bushing Co.,** 5107 Pacific Blvd., Los Angeles 58, Calif.

▲ For more details circle **NED-11 D1** on enclosed inquiry slip ▲

one head is better than more-if it's a

ZAGAR Head for Drilling, Reaming and Tapping



1 to 1000 holes in one pass—as close as twice drill diameter. Costs decrease as spindles are added. *And,* a variety of hole patterns (or parts) can be produced with *one fixed center head.* Zagar units are adaptable to standard drill presses or are built as a complete installation. Send in your hole problem to Zagar.

Zagar Standard Gearless Heads MAKE ANY NUMBER OF HOLES IN ANY PATTERN, IN ANY MATERIAL ON ALL CENTERS.

Write for Manual "N-4" for engineering data.

23880 LAKELAND BLVD. • CLEVELAND 23, OHIO

Zagar INCORPORATED

USE MORE SPINDLES TO DO MORE WORK

For more details circle NED-12 D1 on enclosed inquiry slip

King-Size Flo-master marks on everything

It's the world's only king-size *refillable* felt-tip marking pen. Designed especially for shipping room table and factory bench. Extra-large ink capacity. Takes replaceable felt tips up to 1" wide. Choose among 8 transparent ink colors. Try it. Only $4.00.

ESTERBROOK

For more details circle NED-13 D1 on enclosed inquiry slip

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paging plus private 2-way intercom

New dual-function Executone units keep every man on your staff in instant contact . . . let you locate and talk with people anywhere in your plant or offices, or on the grounds . . . even in high-noise areas.

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Please send detailed information on **paging and intercom** for

☐ low-noise areas Name_____
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☐ outdoor areas City_____ Zone____ State____

For more details circle NED-14 D1 on enclosed inquiry slip

Predicting Product Need Trends

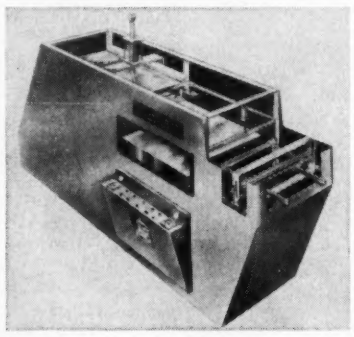
Product demand trends of the future may be culled from the computer tapes of a Remington Rand Univac installation now being programmed by S. J. Tesauro & Co. of Detroit. All population and housing characteristics data gathered in the 1960 Census will be correlated. The project will pinpoint sociological trends, changing economic currents, population shifts, and other changes.

This service will provide a wholly new base for accurate and timely projections dealing with the future demands of the educational system, population concentration trends, and specific needs for goods and services on the part of the public. The tabulations will be available at a nominal cost this fall.

If this data processing could be extended into the area of industrial equipment and materials needs, it would revolutionize our present industrial product development and marketing programs.

A. N. Gregg
EDITOR

AUTOMATIC VACUUM FORMER handles 24 x 36-in. plastic sheet, forms at 3 to 6 cycles per minute



High production forming of plastics for packaging of food, hardware, instruments, and small parts, as well as forming plastic parts for industrial use is performed by the Tronomatic 2436 automatic vacuum former. The 6-in. updrape machine handles 24 x 36-in. plastic from rolls and operates at three to six cycles per minute continuously. All thermoplastics that can be vacuum formed are used in the machine, which has a prevacuum timer and controlled vacuum pressure.

The 21-heat rod, two-motion heater preheats the plastic, moving with it to the forming or drape stage. Adjustable clamp frame which holds the material can be varied in size from 12 x 12 to 24 x 36 in. Accessories include an automatic cutter, a heat controlled table, automatic unwinder, partial vacuum or air billow timer and controls, and a plug attachment. Unit, complete with automatic roll feed, material take-off rack, vacuum tank, and motor, sells for $7600. • **Tronomatic Machine Mfg. Corp.**, 25 Bruckner Blvd., Bronx 54, N. Y.

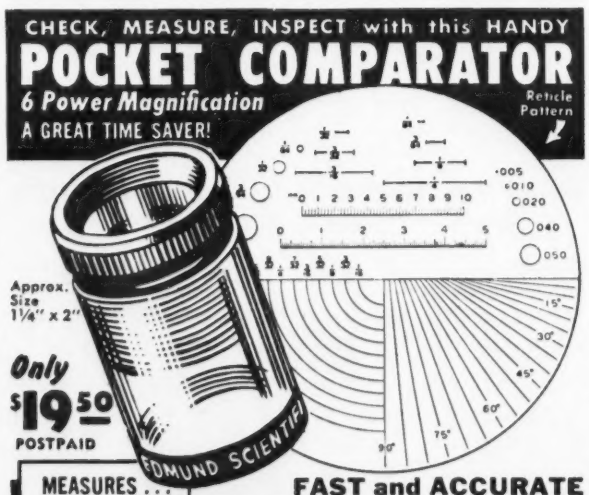
For more details circle NED-15 D1 on enclosed inquiry slip

CHECK, MEASURE, INSPECT with this HANDY

POCKET COMPARATOR

6 Power Magnification

A GREAT TIME SAVER!



Only $19.50 POSTPAID

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FAST and ACCURATE
On Small Parts . . . Small Dimensions

Fine, imported measuring magnifier with real etched glass reticle—for on-the-spot checks of linear dimensions, angles, radii, diameters. Clear plastic cell admits light to object viewed. Focusing adjustment. Reticle easily removed for use as high-power magnifier. Instrument comes in protective leather case. We guarantee complete satisfaction or your money back. **Order Stock No. 30,061-AE .....$19.50 Postpaid**

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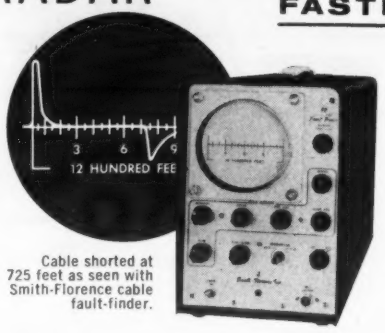
EDMUND SCIENTIFIC CO., Barrington, N. J.

For more details circle NED-16 D1 on enclosed inquiry slip

Cable Faults?

RADAR FINDS THEM FASTER



Cable shorted at 725 feet as seen with Smith-Florence cable fault-finder.

4

SMITH-FLORENCE electronic fault-finders speedily solve electrical cable servicing problems by giving you a "picture" of exactly where the trouble is and what it is. Using the radar principle, these dependable S-F instruments permit accurate ranging from *only one end of the cable* to pinpoint shorts and open circuits. S-F offers a variety of models with ranges from 200 feet to 100 miles for servicing in missiles, aircraft, ships, industrial plants and communication systems. Prices: $375 to $695.

Get more details—including how you can use S-F fault-finders for other important jobs—by writing to:

SMITH-FLORENCE INC.
4228 TWENTY-THIRD AVENUE WEST, SEATTLE 99, WASHINGTON

For more details circle NED-17 D1 on enclosed inquiry slip

Browning VARIABLE PITCH SHEAVES

Now you can get famed Browning quality in *motion controlled* variable speed drives, for 1/6 to 2 hp requirements. Browning's new spring loaded sheave replaces any ordinary sheave, driver or driven, to provide a wide range simply by adjusting center distance. In combination with the new manually controlled type, twice the normal range is achieved with no change in center distance and without misalignment. Convenient bracket knob permits infinite speed control. Each sheave in four sizes, 3" to 6" OD. Ask your Browning Distributor for Catalog SL-101, or write Browning Manufacturing Company, Maysville, Kentucky.

Browning . . . . OUR 75th YEAR

FOR PROMPT DEPENDABLE SERVICE CONSULT YOUR BROWNING DISTRIBUTOR

For more details circle NED-18 D1 on enclosed inquiry slip

SPECIAL TOOLS FOR SPECIAL JOBS 1

K-D METRIC HEX KEY PAKS FOR FOREIGN MOTORS AND MACHINERY

- **2, 2½, 3, 4, 5, 6mm keys all in one metal folder *(other sizes also available)***
- **Production-line quality**
- **Heat treated for long service, hard use**
- **Cadmium plated**

NEW!

Tools like this for hard-to-reach locations—difficult parts—special jobs—have been our forte for over forty years. K-D is known the world over as the largest quality-line of special tools for professional auto repair and maintenance. Watch for our unique solutions to *your* industrial problems.

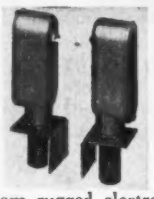
K-D TOOLS *Making Hard Jobs Easy Since 1919*

K-D MANUFACTURING COMPANY
Lancaster, Pa.

For more details circle NED-19 D1 on enclosed inquiry slip

HERE IS THE ANSWER TO ACCURATE COUNTING ! !

for only $99.50 f.o.b. factory



Accuracy and life is superior to more expensive totalizing systems as proved in months of heavy duty testing.
Includes electronic amplifier - counter and scanning heads complete. Has no relay—counter pulsed direct from rugged electronic tube.
Counter is 6 digit lever reset. Speed 1500 counts per minute.
Rated life 100 million counts at maximum speed.
Scanning heads are cast aluminum easily mounted and adjusted for 6 ft. beam or reflection. New type sensitive photo cell and 10,000 hour lamp bulb employed.
Order initial unit today. Specify Model No. 1425.
Shipping weight: 12 lbs.

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MFG. ELECTRONIC INDUSTRIAL CONTROLS
MEMBER CHICAGO ASS'N OF COMMERCE AND INDUSTRY

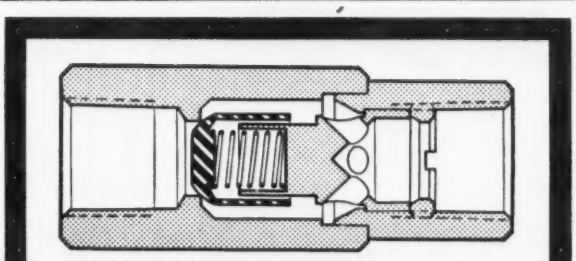
▲ For more details circle **NED-20 D1** on enclosed inquiry slip ▲

A BETTER ROPE IN YOUR PLANT!

Regardless of what you do with rope, you'll do it better, more safely with the right kind of rope from PURITAN CORDAGE MILLS!
For example, PURITAN BRAIDED NYLON CORD answers many industrial needs; has greater tensile strength and a higher degree of elasticity than any other commonly used textile fiber, absorbs shock, resists abrasion and wear, withstands mildew and bacteria, yet remains soft and supple.
Choose the right type of rope to meet your specific need.
Write for full details. **PURITAN CORDAGE MILLS, Inc., 1205 E. Washington St., Louisville, Ky.**

PURITAN CORDAGE MILLS P C M LOUISVILLE, KENTUCKY

▲ For more details circle **NED-21 D1** on enclosed inquiry slip ▲



Dependable Check Valves

- Can't stick open
- Low pressure drop
- Tight metal seal
- All steel construction
- For oil to 5000 psi
- Sizes—¼" thru 1¼" pipe (NPTF) or S.A.E.

Write for detailed literature

Manufacturers of Hydraulic Valves and Devices

Fluid Controls, inc.
Relief Valves • Check Valves • Restrictor Valves Needle Valves • Pilot Check Valves • Special Valves • Pressure Compensated Flow Regulators
Box 186 • MENTOR, OHIO
Member of National Fluid Power Association

▲ For more details circle **NED-22 D1** on enclosed inquiry slip ▲

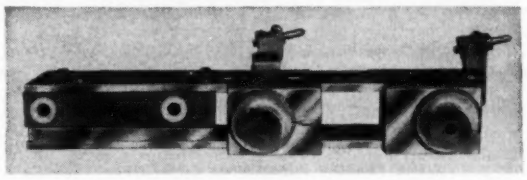
BALANCE REEL for suspending portable tools

An instant - action automatic safety lock in the Series E balance reel protects equipment and personnel in the event of spring failure. Used for suspending portable and electric tools on production and assembly lines, it holds loads up to 30 lb. Its tapered cable drum provides constant equalized tension. Main spring is contained in its own cartridge and is lifetime lubricated. • **Aero-Motive Mfg. Co.,** 1803 Alcott St., Kalamazoo, Mich.

▲ For more details circle **NED-23 D1** on enclosed inquiry slip ▲

PRECISION WHEEL DRESSER diamond adjusts within 0.0001 in.

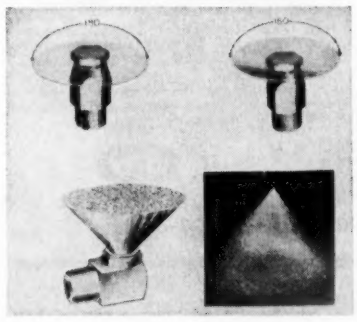
Precision adjusting control over diamond point wear in grinding wheel dressing and other machining operations is possible with this control mechanism. It



allows adjustments to 0.0001 in. and better. Built into the grinding wheel dresser arm, it is connected directly to the diamond holder. Setting is made by merely turning a calibrated knob. • **Briney Mfg. Co.,** Box 208, Pontiac, Mich.

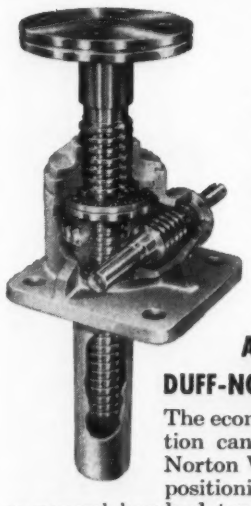
▲ For more details circle **NED-24 D1** on enclosed inquiry slip ▲

SPRAY NOZZLES spray angles from 0 to 180 degrees



Line of brass, Monel, steel, stainless steel, hard rubber, and Teflon spray nozzles includes hollow cone, hollow cone wide angle, solid cone, flat, extra wide angle, and adjustable flat spray patterns. Orifice diameters range from 0.010 to 0.546 in., and spray angles from 0 to 180 degrees. Pipe sizes from ⅛ to 1-in. NPT in both female and male connections are offered. Nozzles have a nonclogging one-piece design and are also available custom engineered. • **Associated Precision Industries,** 6459 N. Sheridan Rd., Chicago 26, Ill.

▲ For more details circle **NED-25 D1** on enclosed inquiry slip ▲



New Economy for Machinery Designers

A STANDARD LINE OF DUFF-NORTON WORM GEAR JACKS

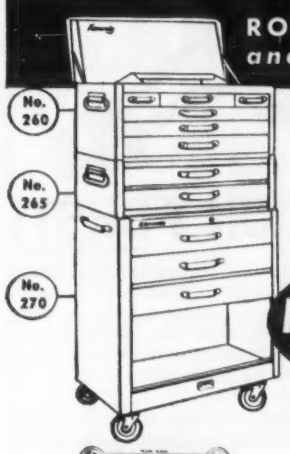
The economies of standardized production can be realized by use of Duff-Norton Worm Gear Jacks for accurate positioning of loads weighing as much as several hundred tons. This standard line of eight jacks ranges from 2 to 100 tons in capacity. When jacks are used in an arrangement, added economy can be realized in raising unevenly distributed loads, since all models now have a uniform raise which permits jacks of varying capacities to operate in unison. Worm gear jacks are furnished with standard raises from 6 to 24 inches. Special raises can also be furnished. Write for Bulletin AD-66-N.

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle **NED-26 D1** on enclosed inquiry slip ▲

KENNEDY

heavy duty ROLLER CABINETS *and* TOOL CHESTS



They're expandable! Buy one section now . . . add others later. Built of high quality steel for long, rugged life. Made with the tool user in mind.

CHOOSE FROM **MANY MODELS** AND COMBINATIONS

Kennedy Kits

Write for catalog and the name of the nearest Kennedy dealer.

KENNEDY MANUFACTURING CO.
VAN WERT 10, OHIO
KM28

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For Fast, Precise Miniature and Sub-Miniature Soldering

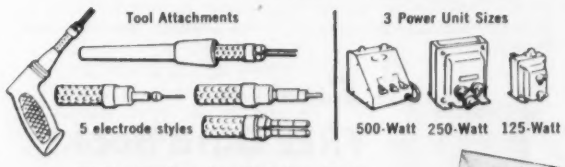
IDEAL THERMO-TIP®

RESISTANCE SOLDERING TOOLS

No Cold Flow • No Burn Damage • No Set-Up

Cut time, cost and damage on all precision miniature and sub-miniature soldering jobs. Ideal Thermo-Tip Soldering Tools use resistance heating principle to concentrate *all heat on the job*—instantly, without set-up or pre-heating. Versatile "Pencil Grip" handle is easily manipulated for close-quarter soldering of aircraft connectors, printed circuits, pin type plugs, terminals—practically any job requiring pin-point assembling accuracy. Thermo-Tip is activated only on contact with work—doesn't waste current, can't damage adjacent parts, can't burn operators. Solder immediately flows all around to form stronger, neater, more uniform joints. Unit is so lightweight a woman can use it all day without tiring. Has a perforated aluminum sleeve which dissipates heat for exceptionally cool operation. Available with "pencil grip" and "pistol grip" style tools.

IDEAL SOLDERING EQUIPMENT FITS EVERY NEED



Write Today for Catalog Data

IDEAL INDUSTRIES, Inc.
1032-D Park Ave.,
Sycamore, Illinois

Please send Catalog data on Ideal Soldering Equipment

Name _____
Company _____
Address _____
City _____ Zone _____ State _____

SOLD THROUGH AMERICA'S LEADING DISTRIBUTORS
In Canada: Irving Smith, Ltd., Montreal

▲ For more details circle **NED-28 D1** on enclosed inquiry slip ▲

METARAYS DON'T BUST!

Maybe there's a better word . . . but none says it better. If you're using glass infrared lamps, and have a high breakage rate, here's the answer. Chromalox Metarays have unbreakable, metal-sheathed elements. Maintenance is all but eliminated. Dust, dirt, and paint dropped from parts in process are burned off by the element. Rated 120 volts, 375 to 1200 watts, Metarays create no glare . . . can be operated by automatic or manual controls.

Next time you break a glass infrared lamp, replace it with a Metaray . . . it won't bust. Write today for literature and prices.

CHROMALOX ELECTRIC HEAT
Edwin L. Wiegand Company
7509 Thomas Boulevard • Pittsburgh 8, Pa.

For more details circle NED-29 D1 on enclosed inquiry slip

NEW EQUIPMENT DIGEST
A PENTON PUBLICATION

PENTON BUILDING, CLEVELAND 13, OHIO • MAin 1-8260

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New Equipment Digest is published monthly by The Penton Publishing Co., Penton Building, Cleveland 13, Ohio and is sent without cost to engineering, specifying, or buying officials of companies listed in Dun & Bradstreet as a manufacturer or processor. It is also sent free to key executives of railroad, steamship, and transportation firms. It is not sent to salesmen, representatives, or other distributors. Paid subscriptions are not accepted. Qualified men can apply for a free subscription by filling out the coupon on the inquiry slip enclosed in this issue. Accepted as Controlled Circulation Publication at Cleveland, Ohio.

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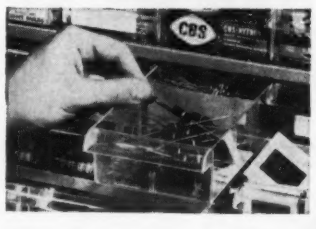
FREE! NEW CATALOG of A-M Cabinets that organize storage of all small parts

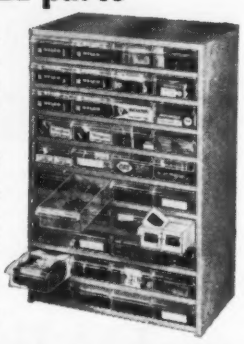


This new catalog shows how the scientific and efficient storage of small parts CUTS COSTS by saving space and time.

Model M40B illustrated

175 different stock models with from 6 to 128 drawers, or we can construct to your specific needs.

SEND TODAY FOR OUR NEW CATALOG!



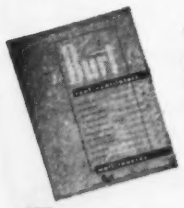
A-M

AKRO-MILS CABINETS
Box 989-S • Akron 9, Ohio

For more details circle NED-33 D1 on enclosed inquiry slip

NEW Burt Spun Aluminum Direct and V-Belt Drive Centriflow Fan Ventilators

- 25 BASIC selections of tip speeds and capacities in direct drive models.
- 64 BASIC selections of tip speeds and capacities in V-belt drive models.
- CAPACITIES from 65 to 27,648 CFM.
- HORSEPOWER ratings from 1/60 to 7½.
- SIZES from 6" through 48" wheel diameters.
- STATIC PRESSURE range from 0" through 1" W.G. (Higher static pressures on Application).
- LOW PROFILE heavy gauge spun aluminum housings.
- NON-OVERLOADING backward curved, non-sparking aluminum fan wheels.
- ADJUSTABLE SHEAVES on V-belt units to change capacities at anytime.
- DAMPERS available in drop-in sleeve type, automatic back-draft or motor operated.
- BURT DESIGNED for minimum noise levels.
- AMCA CERTIFIED Capacity ratings for units of 16" wheel diameter and larger.



Send for
FREE Data Book!

Write for Centriflow Data Book SPV-12-C 160 and Burt Data Book SPV-101-H, which supplies quick data on Burt's complete line of modern Roof Ventilators

FAN & GRAVITY VENTILATORS
LOUVERS
SHEET METAL SPECIALTIES

The Burt Manufacturing Company
50 E. South St. Akron 11, Ohio
MEMBER AIR MOVING & CONDITIONING ASSOCIATION, INC.

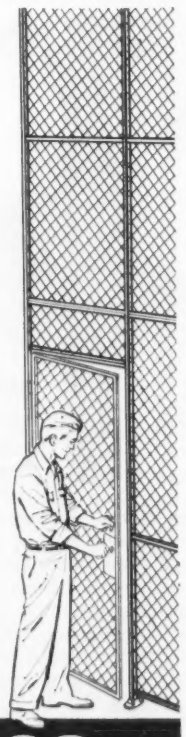
For more details circle NED-30 D1 on enclosed inquiry slip

Temperature Controllers & Indicators

Fenwal Inc.—Electrical and mechanical specifications, available modifications, and descriptions of major features are included in 8-page illustrated Brochure MC-196 on 500 Line of temperature controllers and indicators. How they can be combined for multi-point control or monitoring with optional features is related.

For more details circle NED-31 D1 on enclosed inquiry slip

NOW! Plan low-cost wire partitions in ELEVEN stock heights!



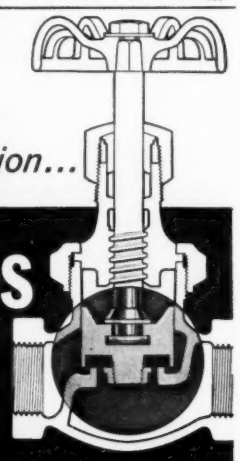
Start with Logan's exclusive choice of 4 stock panel heights, 7 ft., 8 ft., 9 ft., and 10 ft., in widths from 1 ft. to 5 ft. If you need extra-high partitions it is simple to combine the same stock panels vertically for sturdy partitions 14 ft., 15 ft., 16 ft., 17 ft., 18 ft., 19 ft., or 20 ft. high. Free-standing or ceiling attached. FREE—write for complete new planner-catalog and name of your nearby Logan dealer.

LOGAN CO., BUILDERS IRON DIVISION
745-2 Cabel St., Louisville 6, Ky.

LOGAN CO.

For more details circle NED-32 D1 on enclosed inquiry slip

Withstands severe stress of on-and-off operation...



O-B Valves with Free-swiveling Disc Holder

10144-V

O-B BRONZE VALVES feature self-leveling, free-swiveling disc holders in globe and angle types (except needle valves) in sizes down to ⅛-inch. This O-B design keeps disc from grinding against seat—assures accurate alignment—withstands constant on-and-off operation—chops maintenance costs. Write for new catalog information.

OHIO BRASS COMPANY
Mansfield, Ohio

Ask your distributor for the valve in the orange-and-black box

For more details circle NED-34 D1 on enclosed inquiry slip

MOUNT YOUR MACHINES ON

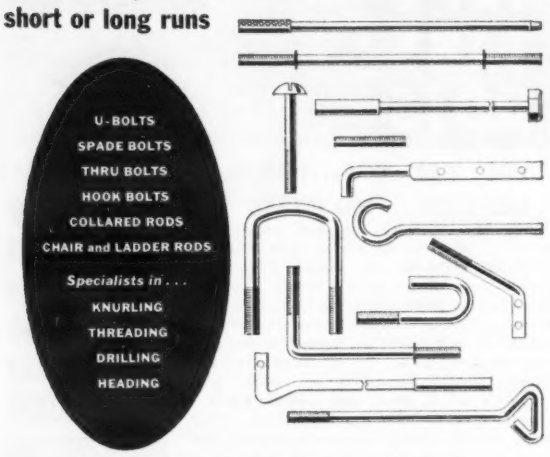
STANMOUNT

Cuts machine vibration—increases life of dies, cutting tools and moving parts of machine. Machine speeds can be increased with smoother running action on Stanmount pads.
Saves hole drilling and filling, speeds up machine installation, and gives added shop flexibility.
Lessens plant noise and reduces worker fatigue.
Contact us for information on simplified mountings for new plant equipment or relocations jobs. Call or write for complete data and samples.

HILMAN EQUIPMENT COMPANY
506 Baltimore Blvd., Sea Girt, N. J. Phone: Gibson 9-9296

For more details circle NED-35 D1 on enclosed inquiry slip

Complete Facilities for the manufacture of Special Headed and Threaded fasteners / from 1" to 60" in length in short or long runs



Send drawings or blueprints for quotes and literature.

OHIO ROD PRODUCTS CO., INC.

20265 1st AVENUE • BEREA, OHIO

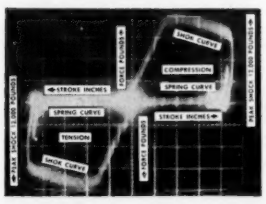
▲ For more details circle NED-36 D1 on enclosed inquiry slip ▲

Announcing **NEW**

DOUBLE ACTING

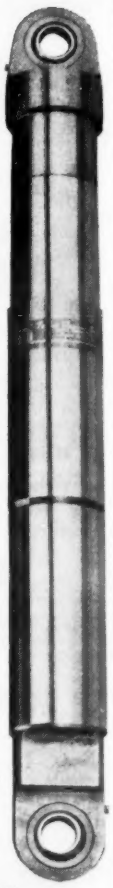
TENSION/COMPRESSION

Taylor Liquid Spring SHOK



Showing energy absorbed under shock curve up to 80% of square card and spring capabilities curve to reposition arresting hook unit shown on right.

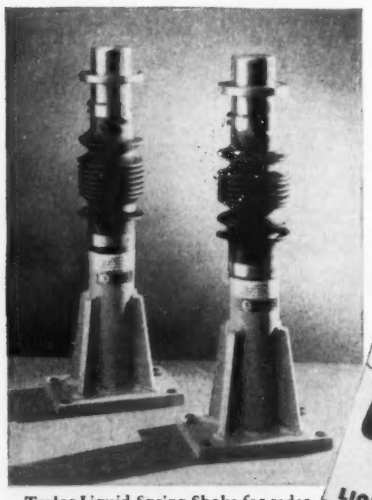
Oscilloscope photograph at left shows energy capabilities of Taylor Liquid Spring Shoks designed to absorb and store energy in both directions. Double acting piston system uses same liquid providing identical, or different energy in tension and compression. Any desired shock or spring curve may be provided to meet design requirements on either side of datum line.



ALL TAYLOR SPRING SHOKS PROVIDE:

- Infinitely variable spring and/or dash pot energy capabilities from 50 to 250,000,000 inch pounds
- Controllable return velocities from milliseconds to days
- Tension, compression, or both
- Minimum weight and space in direct acting, integral units
- Original performance even after long storage
- High or low temperature capabilities. Accepted and used for industrial and military applications.

A tension-compression Taylor Liquid Spring Shok for an aircraft arresting hook. Saves 27 pounds over existing system. 14¾" between hole centers and 1⅝" diameter.



Pat. Nos. 2,873,933; 2,909,368 and pending U. S. and Foreign

Taylor Liquid Spring Shoks for radar installations with time delay return.

Write for **FREE Handbook**

TAYLOR DEVICES, Inc.

Specialists in Compressible Material Devices

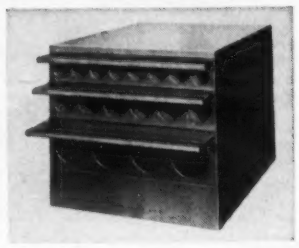
194 MICHIGAN AVE., NORTH TONAWANDA, N. Y.

(On Tonawanda Island in the Niagara River)

▲ For more details circle NED-37 D1 on enclosed inquiry slip ▲

ROLLED MATERIAL FILES

modules made in three diameters



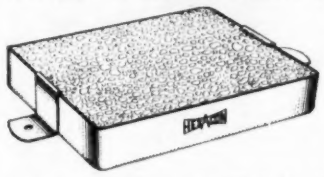
Rolled tracings, prints, and other rolled materials are easily filed in Moducor filing units, equipped with hinged doors that are held open or closed by spring tension. Available are four, six, and eight-tube modules of a standard 18¾-in. width with 4, 2⅝, or 1⅞-in. diameter tubes. Lengths vary in 6-in. increments from 24 to 60 in. Heights, according to number of tubes, are 5⅛, 3⅞, and 3 1/16 in. The stackable units have foil wrapped paper laminate tubes with steel ends, anchored mechanically in the metal frames. • **Hamilton Mfg. Co.**, Dept. 385, Two Rivers, Wis.

▲ For more details circle NED-38 D1 on enclosed inquiry slip ▲

SOLDERING IRON CLEANER

does not remove protective solder

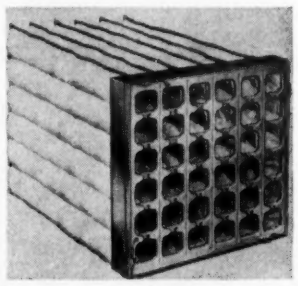
A simple swipe of the hot soldering iron tip over this tip-cleaning sponge speeds soldering and extends tool life. It does not remove the protective solder from the iron. Sponge is large enough for all irons, and fine cellulose structure combined with the aluminum tray reservoir holds ample supply of water. • **Hexacon Electric Co.**, 145 W. Clay Ave., Roselle Park, N. J.



▲ For more details circle NED-39 D1 on enclosed inquiry slip ▲

DRY-TYPE AIR FILTER

efficiencies to 97 per cent



Industrial and commercial ventilating systems and central air conditioning systems are typical uses for DRI-Pak dry-type air filters which range to 97 per cent efficiency. The disposable filter inflates when ventilation system is operating and collapses when system is shut down. It can thus be inspected and serviced from either side of the filter bank. The 24 x 24-in. cartridge is only 4 in. deep folded and weighs only 4 lb. In operation, Series 2000 filter measures 24 x 24 x 36 in., is rated 2000 cfm, and provides 95 sq ft of media surface. Velocity through the media is only 21 fpm. Series 2000H and 1000 respectively measure 12 x 24 x 36 and 24 x 24 x 18 in. inflated. • **American Air Filter Co.**, Dept. PD, 215 Central Ave., Louisville 8, Ky.

▲ For more details circle NED-40 D1 on enclosed inquiry slip ▲

DISPOSABLE CLOTHING

Eliminates Laundry Costs

Low cost line of disposable clothing is lint-free and durably constructed for maximum wear resistance. The clothing is soft, fire-resistant, water repellent, light in weight and comfortable. Excellent, too, for plant visitors. Can be worn over street clothes by men or women.

AVAILABLE IN Shirts—Pants—Laboratory Coats—Hats—Boots—Aprons and Gowns.

Looks smart. Requires no capital investment. Eliminates cost and waiting for laundering.

Send for bulletin No. 700

A DEPENDABLE GUIDE TO SAFETY

GENERAL SCIENTIFIC EQUIPMENT COMPANY

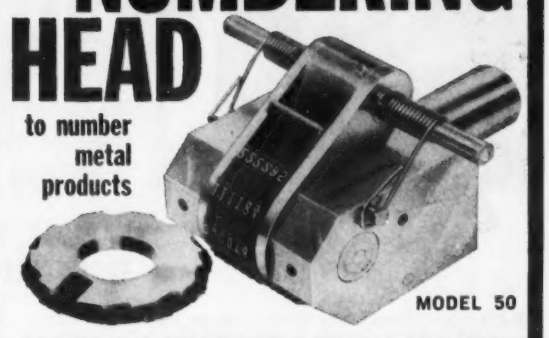
TESTED INDUSTRIAL SAFETY PRODUCTS

Limekiln Pike & Williams Ave.
Philadelphia 50, Pa.
Telephone Hancock 4-1550

▲ For more details circle NED-41 D1 on enclosed inquiry slip ▲

AUTOMATIC NUMBERING HEAD

to number metal products



MODEL 50

STURDY/ACCURATE/LONG LASTING

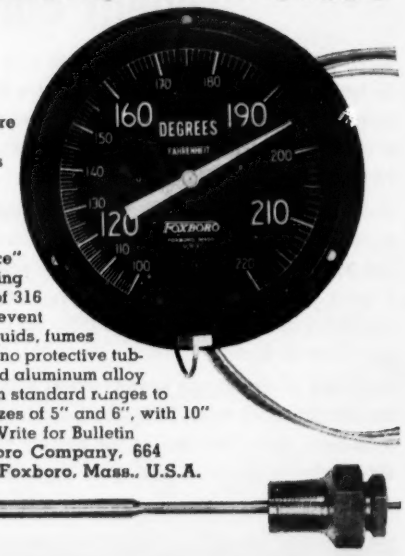
Rapid consecutive character wheels advance automatically after each stamping. Clear, uniform impressions. Wheel and index plate one piece unit, sturdier...greater uniformity. Index plate cannot become loose or out of alignment. Wheels available with Round Face characters for low-strain marking. Write for bulletin 50N.

NUMBERALL STAMP & TOOL CO.

HUGUENOT PARK, STATEN ISLAND 12, N. Y.

▲ For more details circle NED-42 D1 on enclosed inquiry slip ▲

"Lifetime" Dial Thermometers

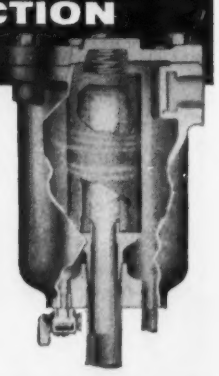


You're always sure of accurate temperature readings with this easy-to-read Foxboro "Lifetime" Dial Thermometer. Welded "one-piece" bulb and connecting capillary tubing of 316 Stainless Steel prevent corrosion from liquids, fumes or vapors. Needs no protective tubing. Tightly sealed aluminum alloy case. Available in standard ranges to 1000°F. — dial sizes of 5" and 6", with 10" and 12" scales. Write for Bulletin 14-11. **The Foxboro Company, 664 Neponset Ave., Foxboro, Mass., U.S.A.**

FOXBORO Reg. U. S. Pat. Off. DIAL THERMOMETERS

▲ For more details circle NED-43 D1 on enclosed inquiry slip ▲

POSITIVE PRODUCTION PROTECTION



. . . accurately describes the exclusive double action cleaning of the ADAMS AIR FILTER . . . centrifugal separation followed by diffusion through the millions of tiny openings of the Poro-Stone element. The filter, installed at the terminal points of your system, completely frees the compressed air of entrained liquid, and any scale picked up in the distribution piping. Expensive production downtime, repairing air operated tools—cleaning fouled equipment components—reworking off-grade spray painting—are all unnecessary *and* eliminated when the Adams Poro-Stone filter provides clean, dry air. Adams units require virtually no service and maintenance — insuring continuous low-cost performance. They are available in a wide range of capacities to suit your needs. Bulletin 117 will give you all the facts. Write for your free copy today. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, N. Y.

ADAMS QUALITY COMES THROUGH

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NEW & EXCLUSIVE with McCord Model 55 Lubricator

SAFE-LEVEL SIGHT FEED

That's right! The finest lubricator on the market today has been refined to give you even *more* for your money. Now, the McCord Model 55 Lubricator comes equipped with new, exclusive Safe-Level Sight Feed with these outstanding benefits for you...safe, sure warning of malfunction... quicker priming . . . better feed regulation . . . extreme accuracy . . . improved reliability. *IMPORTANT:* Safe-Level Sight Feed can also be added to existing Model 55's.

For COMPLETE details on this important new development write today to:

McCORD CORPORATION
Lubricator Division • Detroit 11, Michigan

▲ For more details circle **NED-45 D1** on enclosed inquiry slip ▲

Auto-View welding helmet answers silent commands

AUTO-VIEW is the new welding helmet that allows the welder to look at his work without touching his helmet — automatically, efficiently. You look through either a clear, protective window, or a leak-proof welding filter at will. The window changes at your own silent command.

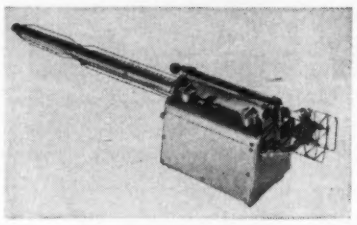
The operating principle of Auto-View is simple. To remove the light filter, you open your mouth. Under your chin a comfortable pad actuates a mechanism to remove or replace the filter. For a quick look, just open and close your mouth. For prolonged looking, a HOLD button locks the filter out of the way until you start to weld again.

Auto-View is particularly useful in tight places, where it would be difficult to tilt an old-fashioned helmet. In any situation, the Auto-View saves time, makes the welding job easier, and provides greatly increased quality of work. Write for literature.

1424 Fourth St., Santa Monica, Calif. AUTO-VIEW WELDING HELMET CO.

▲ For more details circle **NED-46 D1** on enclosed inquiry slip ▲

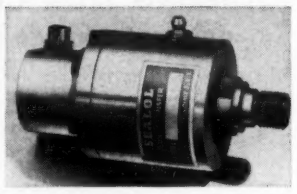
INSECTICIDE DISPENSER generates dense cloud of fog



Easily portable and weighing only 18 lb, the Model 70 Dyna-Fog insecticide fog generator affords savings in insecticide and labor costs through efficient dispensing. Usable indoors or outdoors, it produces a dense cloud of dry insecticide fog which insects cannot escape. The 52-in. long unit is gasoline powered, has only one moving metallic part, and is built of stainless steel and aluminum. Output is controllable. • **Curtis Automotive Devices, Inc.**, Box 297-7, Westfield, Ind.

▲ For more details circle **NED-47 D1** on enclosed inquiry slip ▲

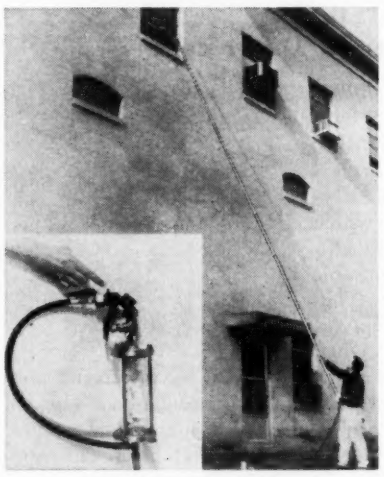
FLUID TRANSFER UNIT withstands 1200 psi at 12,000 rpm



Improved fluid transfer unit will withstand cycling or steady pressures to 1200 psi at rotational speeds to 12,000 rpm. This is a 20 per cent increase in both pressure and speed capabilities. Unit finds use in gundrill, clutch, power cylinder, and similar applications requiring the transfer of fluids from a stationary source to a rotating hollow spindle. • **Sealol, Inc.**, Box 2158, Providence 5, R. I.

▲ For more details circle **NED-48 D1** on enclosed inquiry slip ▲

WINDOW WASHERS usable at heights to 76 ft



One man operates the handle, brush, and detergent dispenser that regulates the flow of detergent or rinse water through two window washers. They are capable of washing windows at heights up to 76 ft while the operator remains on the ground. Wide-flaring brushes for large, small, or rough windows spread out to clean the trim as well as the glass. Telescoping handles can be reduced or separated into sections for washing basement or lower level windows. • **Tucker Mfg. Co.**, 112 Fourth Ave. S.E., Cedar Rapids, Iowa.

▲ For more details circle **NED-49 D1** on enclosed inquiry slip ▲

THE BIG NEWS
ABOUT AMERICAN ENGINEERING LO-HED® HOISTS & CAR PULLERS

AMERICAN ENGINEERING LO-HED HOISTS AND CAR PULLERS are now being engineered and manufactured in the Aircraft Armaments, Inc. plant at Cockeysville, Md.

Be assured that the same craftsmanship and high standards of quality which make **LO-HED HOISTS** and **CAR PULLERS** leaders in their field will be maintained in the **IMMEDIATE CONTINUED PRODUCTION** by Aircraft Armaments, Inc.

Please address inquiries to:

AE INDUSTRIAL DIVISION
AIRCRAFT ARMAMENTS, INC.
Post Office Box 6853, Baltimore 4, Maryland

CLEVELAND DISTRICT: A.E. Company, 1157 Leader Bldg., Cleveland 14, Ohio
N. Y. DISTRICT: AE Industrial Division, 1 Exchange Place, Jersey City 2, N. J.

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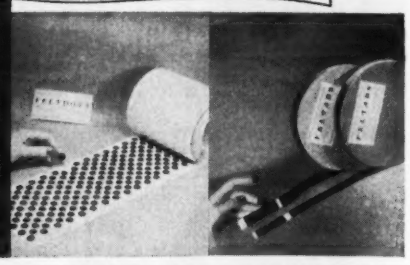
SELF-STICKING FELT

FELT TAPE TABS DOTS



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NO GLUE...NO HEAT!

Speed up production, cut costs, improve appearance and performance with FELTAPE, FELTDOTS, FELTABS on panels, lids, bases, clamps and other contact areas. Seals out dirt, noise, stops vibration, rattle, reduces breakage, absorbs shocks. Pressure sensitive adhesive back sticks by *contact* to any surface, smooth, rough, flat or round. Conforms to any shape. Available 1/8" thick, gray, taupe or white. Moth and vermin proof in gray and taupe only. Available 3/64" thick, beige, black, green, brown or white. Moth proofed in brown only. Tape or tabs 1/8" to 2" wide, dots and washers 1/4" to 3/4" diameter. Special shapes, sizes, colors made to order. Write for samples, prices.

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3905 W. 64TH PLACE • CHICAGO 29, ILL.

▲ For more details circle **NED-51 D1** on enclosed inquiry slip ▲

Got an O-Ring Size Problem?*

Our "I-L-M"* technique makes it possible to provide you immediately with rings of any diameter in .139" or .275" cross section. Don't worry about quality. Note these features:

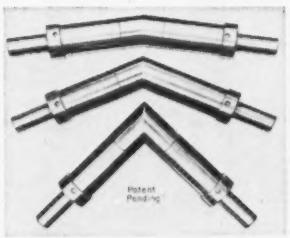
- The elastomer cord from which these rings are made is completely free of flash.
- *Uniform cross section, assured by injex lineal molding.
- Joint of same elastomer as body, no cements.
- Strong joint has 70% tensile strength of body and 65% of elongation.
- Available in Buna N and Neoprene to cover a wide range of aniline point oils.

KALENDEX DIVISION
1791 E. 10 Mile Rd.
Madison Hts., Mich.
PERIFLEX INC.,

▲ For more details circle **NED-52 D1** on enclosed inquiry slip ▲

GEARLESS ANGULAR DRIVE TRANSFERS ROTARY MOTION AT ANY ANGLE - IN ANY DIRECTION

- For hand operated applications and power applications to speeds in excess of 5000 rpm
- Horsepower as required
- Infinite angularity from 90° to 165° per unit
- Shaft sizes from 1/8-in. diameter up



These GEARLESS TRANSFER UNITS are

POSITIVE • SMOOTH • QUIET • COMPACT.

They can be tailored to suit your applications.

A. J. BERNA COMPANY
15251 TWELVE MILE ROAD ROSEVILLE, MICH.
Phone: Prescott 1-1230

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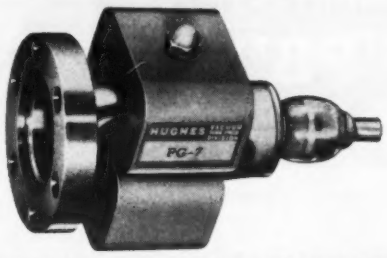
SUPERIOR ULTRA-HIGH VACUUM PERFORMANCE PLUS LONG SERVICE LIFE

LINEAR VACUUM MEASUREMENTS TO 10^{-8} MM HG!



Unique design improvements give Hughes PG-7 Cold Cathode Vacuum Gauge Tube performance far superior to any comparable tube on the market today!

FEATURES:

Long service life—up to 50,000 hours without failure due to contamination. Designed to stay clean.

Application versatility—usable on either glass or metal vacuum systems.

Accurate linear response—from 1 micron to 10^{-8} mm. Hg.

Small—only 3" x 3-11/16" x 2-1/2".

For complete information on tubes and controls, write: **HUGHES, Vacuum Tube Products Division, 2020 Short Street, Oceanside, California**

For Export information, write: Hughes International, Culver City, California.

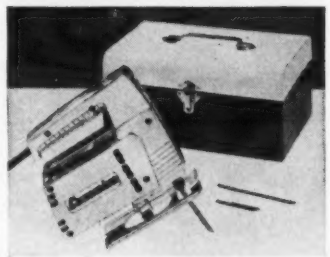
CREATING A NEW WORLD WITH ELECTRONICS

HUGHES

HUGHES AIRCRAFT COMPANY
VACUUM TUBE PRODUCTS DIVISION

For more details circle NED-54 D1 on enclosed inquiry slip

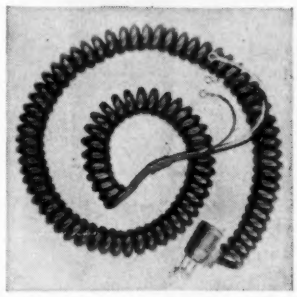
SABER-JIG SAW
for plywood, metal, and plastics



This budget-priced combination saber and jig saw performs the work of rip, crosscut, band, keyhole, hack, jig, and scroll saws. Portable, light in weight, and easy to handle, it has a built-in blower to keep the saw line clear. Other features are a heel rest, cool-grip handle, and vibrationless drive. A calibrated bevel quadrant permits setting up to 45 degrees right or left. The blade is pitched to cut on the upstroke and clear chips on the downstroke. Price is $29.95, or $32.50 with a metal carrying case. • **John Oster Mfg. Co.**, Cummins Portable Tool Div., 5055 N. Lydell Ave., Milwaukee 17, Wis.

For more details circle NED-57 D1 on enclosed inquiry slip

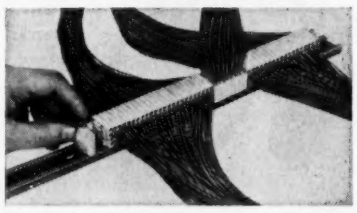
RETRACTILE CORDS
offered with choice of fittings



Line of retractile cords is available alone or with strain reliefs, special plugs, connectors, and other components molded-on for communications, power supply, appliance, electronic equipment, and other uses. A wide choice of colors assures good product match. Where needed, custom engineered or stock components can be used to comply with UL, CSA, Bureau of Ships, Signal Corps, and other standards or codes. • **Miller Electric Co.**, 120 Main St., Pawtucket, R. I.

For more details circle NED-58 D1 on enclosed inquiry slip

MINIATURE TERMINAL BLOCK
modular type has crimp contacts



Density of 100 connections in only 2½ in. is possible with the Minilok miniature modular terminal block. It employs crimp type contacts with a variety of bussing arrangements. Top and side feed nylon modules may be easily interlocked on a rigid polyvinyl chloride plastic track which may be cut to any desired length. Snap-in Hytip contacts simplify wiring assembly and circuit changes. Sockets have beryllium copper springs to retain the contacts, installed by high speed tooling. • **Burndy Corp.**, Norwalk, Conn.

For more details circle NED-59 D1 on enclosed inquiry slip

ZEP-O-KREME cleans hands instantly!

Takes off grease, grime, ink, paints, stains in seconds!

Quick-acting Zep-O-Kreme gets hands clean fast. Mild detergent-emulsifier ingredient removes grime, grease or stain from hands easily, instantly. Lanolin content protects against chafing, cracking. Built-in agent (trichlorobamide) guards hands against infections and allergic reactions. Zep-O-Kreme available in several convenient packages, each with engineered dispensing equipment. Shop men like Zep-O-Kreme.

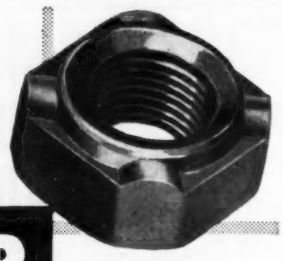
Free try ZEP-O-KREME in your shop with generous trial sample! Write today

ZEP

ZEP MANUFACTURING CORP.
1310 SEABOARD INDUSTRIAL BLVD., N.W., ATLANTA, GA.
BIRMINGHAM • CLEVELAND
DALLAS • KANSAS CITY • NEWARK

For more details circle NED-60 D1 on enclosed inquiry slip

fast... positive... economical



DECKER

WELD NUTS

COLD HEAD PROCESS

Decker Weld-Nuts are manufactured to meet your demands for a better, faster, more positive method of parts assembly. Like all Decker Industrial Fasteners, Weld-Nuts are produced via the *cold-head* process to assure a uniform quality and exceptional economy. Decker Weld-Nuts are available in three basic types and a broad range of sizes to meet every conceivable need.

Study your production applications now and see for yourself the many operations where Weld-Nuts could save your production time and dollars.

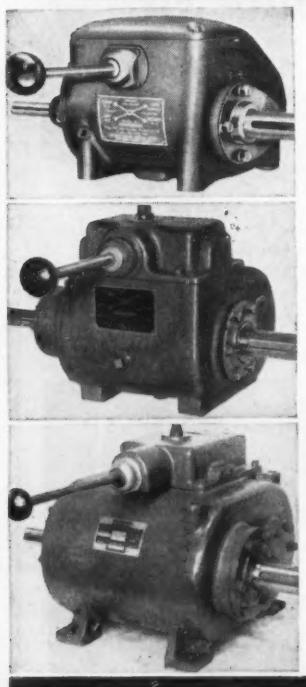
Then...write for sample fasteners, as well as your copy of Decker's new illustrated Industrial Fastener catalog!

OTHER DECKER INDUSTRIAL FASTENERS

DECKER NUT MANUFACTURING CORPORATION
1900 N. CLARK ROAD • ALBION, MICHIGAN

For more details circle NED-55 D1 on enclosed inquiry slip

TRANSMISSIONS *featuring* **Electro-Magnetic Control**



9000-B (1-10 H. P.)
TORQUE RATING: 1400 pound inches output, 350 pound inches input
HORSEPOWER RATING: 5 H.P., 900 r.p.m. input; 10 H.P., 1800 r.p.m. input
GEAR RATIOS: 1:1—2:1—3.14:1—4:1 Special ratios at extra cost. Maximum Reduction 5.07:1

8100-B (10-20 H. P.)
TORQUE RATING: 700 pound inches input, 2800 pound inches output
HORSEPOWER RATING: 10 H.P., 900 r.p.m. input; 20 H.P., 1800 r.p.m. input
GEAR RATIOS: 1:1—2:1—3:1—4:1 Special ratios at extra cost. Maximum Reduction 6.00:1

14800 (left)—Four special speed changes up to limit of case 10:1

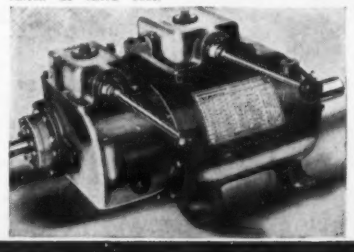
14900 (left)—Four speed changes in geometric progression at 1.71 (total reduction of 5.03)

TORQUE RATING: 1400 pound inches input, 7500 pound inches output
HORSEPOWER RATING: 20 H.P., 900 r.p.m. input; 40 H.P., 1800 r.p.m. input

Transmissions with Electro-Magnetic Clutches provide speed changes and reversing under power, without interrupting power source . . . so equipped are available with two to eight speeds, capacities from 52 to 750 foot pounds and a wide ratio selection (up to 10:1). Manual or automatic controlling of speed changes accomplished with electric switches, tape, cam or other remote control means available. Especially adaptable to automatic machinery where transmission is not accessible to the operator.

Model 14800-EC Control Box has cover Plate removed.

9300 (30-60 H. P.) below
TORQUE RATING: 2100 lb. in. input; 12,000 lb. in. output
H.P. RATING: 30 H.P. at 900 R.P.M. 60 H.P. at 1800 R.P.M. Eight Speed Changes in geometric progression of 1.29 (total reduction 6:1) Special ratios at extra cost.



Transmissions both standard and specially engineered for industrial and agricultural machinery, automotive trucks, tractors, refuelers, industrial shovels, cranes, shop and lift trucks, concrete mixers, road builders, diamond drills, machine tools . . .

Send for catalog and complete information

WESTERN TRANSMISSIONS
WESTERN MANUFACTURING CO. — 3400 SCOTTEN AVE. — DETROIT 10, MICHIGAN

For more details circle NED-56 D1 on enclosed inquiry slip

CUSTOM BUILT® FOR LASTING SERVICE

For information on trailers . CATALOG B
and for industrial cars . . . . . CATALOG C

"Cross Bay", "Custom Built" and "Easton" are registered trade marks of Easton Car & Construction Company

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For more details circle NED-61 D1 on enclosed inquiry slip

BREATHE EASIER

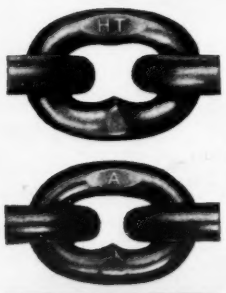
Double filters provide comfortable breathing. Soft rubber face mask gives air-tight fit. Sanitary face cloth protects against dermatitis or chafing. Patented exhalation valve guards against re-breathing stale air.

Cover scientifically designed respirators have been adopted as standard equipment by industries the world over. Free literature on request describing models for every purpose. See your safety equipment supplier or order sample direct. Model shown—only $2.25 postpaid.

H. S. COVER
Dept. 405, South Bend 14, Ind.
"Respirators for Industry Since 1894"

For more details circle **NED-62 D1** on enclosed inquiry slip

CM LIFETIME BRANDED LOAD BINDER CHAINS



INSWELL HIGH TEST—the favorite for load binding...features ultra-short, non-kinking carbon steel links. 3/8" size has a Working Load Limit of 5,100 lbs.

CM HERC-ALLOY—the ultimate in quality alloy steel chain...has no equal for rugged applications requiring high strength and durability. 5/16" size has a Working Load Limit of 5,000 lbs.

There is a difference in chains... specify CM for the best

RUGGED · DURABLE CM CHAIN

COLUMBUS McKINNON CHAIN DIVISION
COLUMBUS McKINNON CORPORATION
Tonawanda, N. Y.
Distributors in All Areas

CM® HERC-ALLOY®

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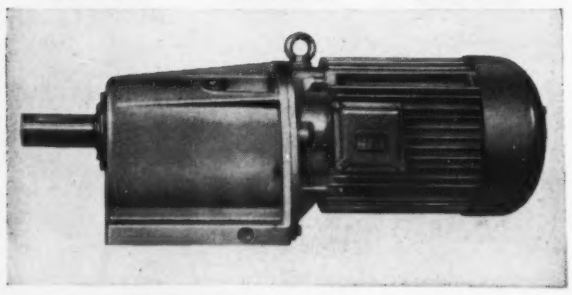
SAVE - SAVE - SAVE



BAUER Gear Motors

Operate in any position from any mounting

- HIGHEST QUALITY at the lowest price
- COMPACT . . . install in crowded areas
- COMPLETELY DUST AND WATER PROTECTED . . . totally enclosed, fancooled units
- HELICAL GEARS . . . assure silent operation
- LUBRICATION of gearbox . . . after 8,000 working hours only

Full range: 1/50 to 30 HP Ratings: 0.3 to 800 RPM

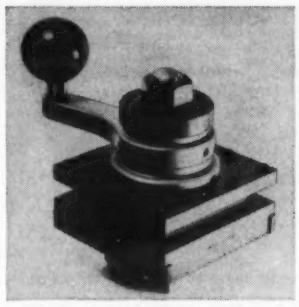
Sold and serviced in 50 states.

For further information, and catalogs write: Dept. NED

GEORG VON OPEL CORPORATION
15 William St., New York 5, N. Y. BO 9-5690

For more details circle **NED-64 D1** on enclosed inquiry slip

FOUR-POSITION TURRET
for 12 to 16-in. engine lathes



One forward and back movement of the ball-handled lever of this four-position automatic indexing turret unlocks the turret, indexes to next tool position, and relocks for the cut. Turret is mounted directly on the compound slide rest of an engine lathe and affords repeat accuracy within 0.0002 in. or better. It is available for 12 to 16-in. machines. • **Westwood Engineering Co.**, 2234 Purdue Ave., Los Angeles 64, Calif.

For more details circle **NED-65 D1** on enclosed inquiry slip

GRAPHITE LUBRICANT
self-spray type is nongumming

Microscopic particles of graphite contained in Kelgraf V-Spray lubricant are held in permanent suspension in oil, and actually "plate" the surfaces on which it is sprayed. The long-lasting lubricant will not drip off or thin out, even when subjected to a wide range of temperatures. It combines the lubricating properties of graphite and oil, and is nonflaking, nongumming, nontoxic, and odorless. Aerosol spray container facilitates application to bearings, machine parts, oven chains, automotive parts, and other equipment. • **Inland Graphite & Chemical Co.**, Box 544, Bridgeport 1, Conn.

For more details circle **NED-66 D1** on enclosed inquiry slip

INDUSTRIAL WORK GLOVE
curved fingers adjust to hand

Outer covering of the No. 510 Stanflex jersey-lined work glove is Pylox, a vinyl compound that resists abrasion, snagging, and tearing. It is punctureproof, will not deteriorate upon contact with oils, acids, caustics, or other harsh substances, and remains flexible under conditions of extreme cold. Glove has a 10-in., liquid-tight gauntlet and single-seam, one-piece hand and gauntlet construction. Curved fingers and thumb design adjust comfortably to hand contours. The jersey lining insulates against extreme temperatures and absorbs perspiration. • **Pioneer Rubber Co.**, 296 Tiffin Rd., Willard, Ohio.

For more details circle **NED-67 D1** on enclosed inquiry slip

MAKE EFFICIENT SYSTEMS from BUSCHMAN IN-STOCK units

Buschman standardized portable conveyors save far more than they cost, handling all kinds of packages, in large and small operations. Select wheel, roller, belt components from stock, to install your own conveyor line. Or build your own Overhead Trolley Cable Conveyor from Buschman standardized units. Consult our agent or write direct.

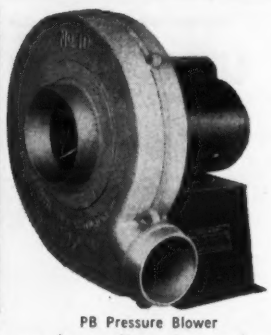
Complete Conveyor Systems for all Industries—Engineered, Manufactured, Installed
Representatives in Principal Cities, See Yellow Pages

The E. W. Buschman Company, 4482 Clifton Avenue, Cincinnati 32, Ohio

For more details circle **NED-68 D1** on enclosed inquiry slip

growing choice for O.E.M. uses

CINCINNATI "PB" BLOWERS



PB Pressure Blower

For exhausting, conveying, air supply, cooling, dust and mist collection . . . these compact low-cost blowers give higher efficiency than blowers costing twice as much. Dependable service and prompt delivery are other reasons **Cincinnati** Pressure Blowers are installed on more and more equipment.

Name-brand flange-type motor is attached direct to cast aluminum housing (can be used with or without pedestal)—a big space and labor saver! Superior **Cincinnati** design includes spark-proof aluminum housing and (self cleaning) wheels for lighter weight, three-position installation, including flush mounting for compactness.

LM Volume Blower

Large stock, prompt shipment saves you inventory! Honestly rated from 350 to 1420 cfm., up to 8" s.p. with 1/3, 1/2, 1 and 2 h.p. motors. Also custom designs for specific needs.

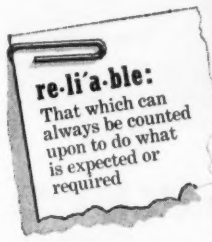
Some good territories available for representatives.

Write for complete blower information

CINCINNATI FAN and VENTILATOR CO.
3554 Montgomery Rd. Cincinnati 7, Ohio

For more details circle **NED-69 D1** on enclosed inquiry slip

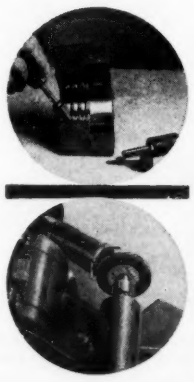
CRATEX RUBBERIZED ABRASIVES



Micro-deburring, Smoothing, Cleaning, Polishing

Cratex reliability lowers costs

You can count on every Cratex item to perform just as you expect it to—exactly as the last one did and as the next one will. This is the key to efficiency in micro-deburring, smoothing, cleaning and polishing. YOU SAVE TIME because you know just what to expect in performance without experimenting or compensating. YOU SAVE REJECTS because with Cratex no unexpected irregularities occur to spoil work pieces.



WHEELS · POINTS · BLOCKS · STICKS · CONES in 4 grit textures for power or manual application. Sold through leading industrial supply distributors.

FREE! *Send for the complete CRATEX Industrial Catalog today*

CRATEX
MANUFACTURING COMPANY, INC.
1600 Rollins Road Burlingame, California

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ROCKET MAGNI-TRAY

A multi-cover stock tray **ideal** for small parts used in the electronic field . . . magnifying cover for easier viewing . . . name tag holder to identify contents . . . unlimited stacking . . . base tray not affected by solutions. Many more! (size: 4" dia. x 5/8" high)

PRICE **69¢**

STANDARD UNBREAKABLE WATCH CRYSTALS, INC. **NEW YORK 51, N. Y.**

A LENSE FOR EACH TYPE OF JOB!

3 INTERCHANGEABLE LENSES

A precision stereoscopic magnifier suitable for "close work" necessary in electronics . . . all unbreakable . . . lense and headpiece. The soft, pliable construction of the headpiece adds to the comfort of the user. Focal strengths: 1 1/2, 2 1/4 and 3 1/2 power ROCKET VIEWER—**Price $12.50 each**

—WE SPECIALIZE IN LENSES ANY STRENGTH YOU DESIRE

ROCKET VIEWER

STANDARD UNBREAKABLE WATCH CRYSTALS, INC. **NEW YORK 51, N. Y**

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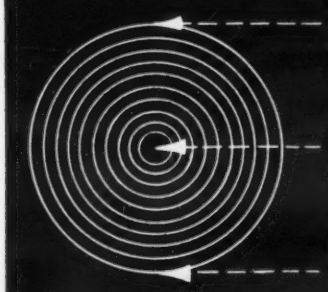
Immediate Delivery, Lowest Prices On All

OFF-SIZE BALLS



ANY MATERIAL
Chrome, Stainless, Brass, Bronze, Monel, Solar, Carbon, Plastic or Special Alloys

ANY SIZE
In an infinite range between 1/64" up to 2¼".

ANY GRADE
In diameter tolerances from ±.00001; and sphericity from ±.00001.

MOST DELIVERIES FROM STOCK! ALL OTHERS WITHIN 7 DAYS!

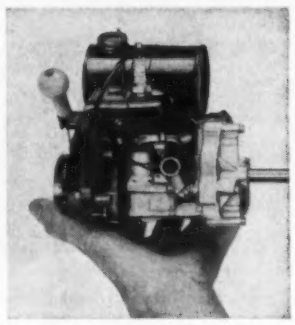
Scores of America's finest, most critical companies depend on Omega to supply them with Precision and Off-Size balls — because they get faster delivery at lowest cost. So can you!
WRITE FOR OUR PRICE LIST — TODAY!

18295 WEAVER AVE. • DETROIT 28, MICH.

OMEGA INDUSTRIES, INC.

For more details circle NED-72 D1 on enclosed inquiry slip

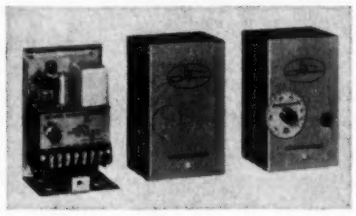
COMPACT GASOLINE ENGINES
now available with reduction gears



Line of reduction gears added to recently introduced compact engines provides units with take-off shaft speeds of 6300, 3300, 1700, and 900 rpm and torques of 7, 14, 27, and 51 lb-in., respectively. With tank and reduction gears, engines weigh 4¾ lb, affording hand-held power for compact, portable, gasoline-powered tools. Gear boxes are closed and oil-filled. Largest gear is nonmetallic for quiet operation. Engines have diaphragm carburetors for dependable operation at all attitudes and angles. • **Ohlsson & Rice**, 3340 Emery St., Los Angeles 23, Calif.

For more details circle NED-75 D1 on enclosed inquiry slip

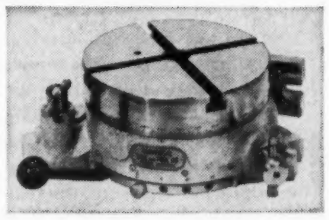
ELECTRONIC TEMPERATURE CONTROL
in ranges from −300 to 2000° F



Applicable to packaging machinery, water and oil baths, commercial and industrial ovens, environmental test chambers, and control of liquids and gases, 7000 Series electronic temperature controls are moisture and dust proof. Though standard range is 0 to 800° F, units are available in ranges from −300 to 2000° F. In addition to models with on-off controls, proportional models have a miniature pre-actuated bridge circuit which "anticipates" on a proportioning basis the actual set point and actuates the relay. Twenty models include units with and without load relay; two, three, four, and five channel units; and options such as pilot light and calibrated dial. • **Electronic Processes Corp.**, 436 Bryant St., San Francisco 7, Calif.

For more details circle NED-76 D1 on enclosed inquiry slip

INDEXING TABLE
for horizontal or vertical use

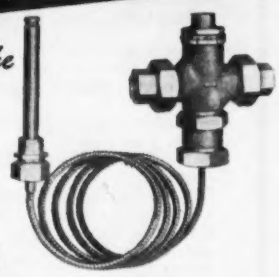


Quick selection of from 2 to 24 index positions is possible with this automatic self-locking Universal Speedi-Spacer. Indexing positions are selected by setting a button. This 9-in. diameter model has a choice of T-slotted platen, plain platen, or 8-in. chuck. Accuracy is within 40 sec. • **Universal Vise & Tool Co.**, Parma, Mich.

For more details circle NED-77 D1 on enclosed inquiry slip

If your equipment or process requires . . .
ACCURATE, AUTOMATIC TEMPERATURE CONTROL
for HEATING or COOLING (using STEAM, WATER, or HEAT TRANSFER FLUIDS)

There is no equal to the Sterlco® Series 150-E TEMPERATURE CONTROL VALVE



Here is a quality, dependable, and low cost self-actuated automatic modulating control valve. It's compact, self-contained; and, as part of your equipment or process, will eliminate the human factor of manual valves. Balanced single-seated construction eliminates effect of pressure variation. Send for Bulletin #505.

MOUNTS and OPERATES in ANY POSITION

INDUSTRIAL CONTROL DIVISION
STERLING INC.
5204 W. Clinton Ave., Milwaukee 23, Wis.

For more details circle NED-79 D1 on enclosed inquiry slip

Now a family of PRESSURE SENSITIVE MARKINGS for every need by AMERICAN DECAL

Permanent
Durable
Colorful

Nameplates, Instructions, Diagrams, Warnings, Decorations, etc.

1. LUSTRE-CAL — Bright polished metal effect. Greater color durability, adhesion than similar products. Transparent or opaque colors.
2. K205—PLASTIC FILM. Unusual durability and weather resistance. Excellent adhesion. Transparent or opaque background.
3. TOUCHDOWN—A pressure sensitive (dry application) decal. Any shape, design, size—all colors.
4. PRESTO-CAL—A heavy duty pressure sensitive decal film. Resists removal intact. Maximum durability and weather resistance. Outstanding ease in application.

FREE DETAILS AND SAMPLES ON REQUEST
AMERICAN DECALCOMANIA Company
4344 WEST FIFTH AVENUE • CHICAGO 24, ILLINOIS
Plants: Cleveland, N.Y., Windsor, Ont., Canada. Offices: All principal cities

For more details circle NED-73 D1 on enclosed inquiry slip

CM Lodestar®

electric hoist

LODESTAR FEATURES INCLUDE:
• Safe, heavy duty performance
• Self-adjusting magnetic brake
• Ultra-modern electric braking
• CM-ALLOY flexible link chain

NEW...Larger capacity and higher speed models in 1/2, 1 and 2 tons for faster, lower cost materials handling.

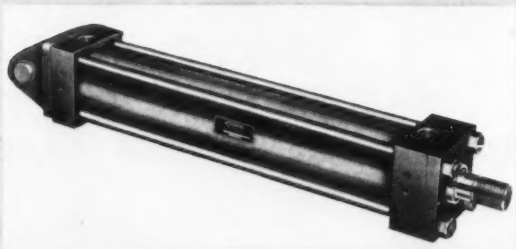
NOW...Greater selection from a complete range of capacities and speeds...1/8 to 2 tons and 8 to 60 fpm.

REQUEST CATALOG AND NAME OF LOCAL STOCKING DISTRIBUTOR

CM HOISTS

CHISHOLM-MOORE HOIST DIVISION
Columbus McKinnon Corporation
TONAWANDA, N.Y.
NEW YORK • CHICAGO • CLEVELAND
In Canada:
Columbus McKinnon Limited,
St. Catharines, Ont.

For more details circle NED-80 D1 on enclosed inquiry slip



HYDRAULIC CYLINDERS

PROMPT DELIVERY—New, separate plant facility insures prompt, individual attention.

COMPETITIVE PRICE—Backed by unmatched sales, service and regional spare parts stocks too!

WIDE CHOICE OF OPTIONS—Mountings, rod end threads, wrench flats, port positions and thread connections.

STANDARD AND SPECIAL DESIGNS—Standard bore sizes range from 1½" to 8" with either standard or heavy duty rods; specials to suit your needs.

GET MORE DETAILS IN BULLETIN 60-68

9628

VICKERS
VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
Department 1400 • Detroit 32, Michigan

For more details circle NED-74 D1 on enclosed inquiry slip

*Q.E.L. Solenoid operated — 8 gpm to 3000 psi.

*Q.E.L. Solenoid controlled, pilot operated — nominal ratings 30-300 gpm to 3000 psi.

*Vickers exclusive Quiet-Extended-Life Solenoids — greatly increased reliability at standard price.

New miniature directional valves — single and double solenoid — rated to 2 gpm, 1000 psi.

IMPROVED DIRECTIONAL VALVES

INCREASED CAPACITY—Up 50 to 500%.

*LONGER SOLENOID LIFE—4 to 5 times larger than ordinary air-cooled solenoids.

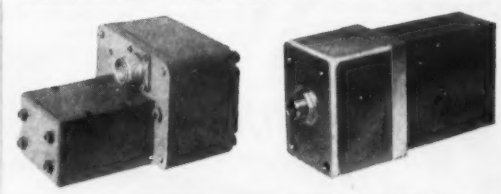
MOST COMPREHENSIVE LINE—Complete range of sizes and spool types.

WRITE FOR BULLETIN DG-1

9629

VICKERS
VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
Department 1400 • Detroit 32, Michigan

For more details circle NED-78 D1 on enclosed inquiry slip



NEW single stage valve rated 0-3 gpm

Two series of 2-stage valves for 0-17 gpm, 0-37 gpm

INDUSTRIAL SERVO VALVES

THREE SERIES—Cover complete range of industrial needs.

RUGGED, DIRT TOLERANT—Specifically designed for industrial conditions of dirt, vibration and temperature.

SIMPLE MAINTENANCE—Can be serviced in the field.

ASSURED COMPATIBILITY—Designed for use with Vickers complete hydraulic line—your assurance of top performance and reliability.

NEED MORE DATA? ASK FOR BULLETINS 59-74, 61-79

9630

VICKERS
VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
Department 1400 • Detroit 32, Michigan

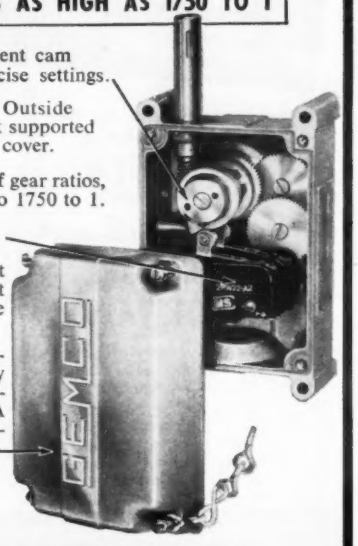
For more details circle NED-81 D1 on enclosed inquiry slip

simplify complex linkage and control problems...

GEMCO
ROTARY LIMIT SWITCHES

GEAR RATIOS AS HIGH AS 1750 TO 1

- Quick, independent cam adjustment. Precise settings.
- Easy mounting. Outside holes. Cam block supported independently of cover.
- Broadest range of gear ratios, from 5 to 1 up to 1750 to 1.
- Easy to wire. Snap-action switches in direct line with conduit connection. More inside space.
- Tough, impact resistant Fibralloy case! (Also available in NEMA type 4 and 7 enclosures.)



WRITE FOR BULLETIN 254

GEMCO ELECTRIC COMPANY
25685 West Eight Mile, Detroit 40, Mich.

For more details circle **NED-86 D1** on enclosed inquiry slip

SILICONE SPRAY

SOLVE YOUR STICKING PROBLEMS WITH Camie

DRY SLIDE

CAMIE SILICONE SPRAY is a heat stable, non-toxic agent that eliminates friction. It has been enthusiastically received in many fields . . . food processing, canning and packing, bottling, brewing and manufacturing. Camie solves sticking problems in heat sealing, conveying, molding and vending.

For your sticking problems – call CAMIE, with its millions of microscopic ball bearings, to the rescue.

Inquiries are invited from manufacturers representatives.

CAMIE DRY-SLIDE is a non-oily, waxless, colorless, and odorless dry lubricant in Aerosol. It is an effective aid to processors, packagers and manufacturers.

Camie Company INC.
9225 Watson Industrial Park
St. Louis 26, Missouri

For more details circle **NED-87 D1** on enclosed inquiry slip

Narrow block makes brush easier to handle, steel back prevents chipping, splitting.

Steel handle bolt prevents thread wear. No need for extra handle braces.

MORE FEATURES BY FAR THAN ANY OTHER FLOOR BRUSH

Longer tufts insure longer wear — cannot come loose.

Tufts are closer together—give better sweeping action.

Speed Sweep

Style and sizes to fit every need... and they're fully **Guaranteed!**

Sweeps Faster, Sweeps Cleaner. Lasts Longer Under Hardest Use.

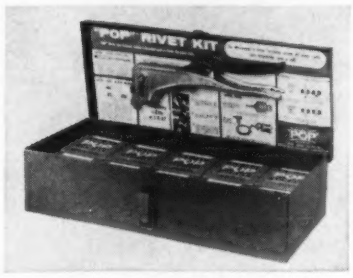
The superior workmanship, highest quality materials and many unique features found only in Speed Sweep guarantee reduced labor costs and less frequent brush replacement to you. That's why thousands of America's top-rated firms have turned to Speed Sweep as the answer to all their sweeping problems. Why don't you?

MILWAUKEE DUSTLESS BRUSH CO.
530 N. 22nd St.
Milwaukee, Wis.

Send complete facts on Speed Sweep to:
FIRM NAME
SIGNED BY
ADDRESS
CITY STATE

For more details circle **NED-88 D1** on enclosed inquiry slip

HOLLOW RIVET KIT
for use with plastic components

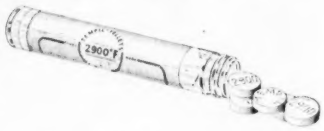


Two hundred each of 10 Pop rivet sizes are contained in the Pop rivet kit for a wide variety of maintenance and production fastening applications. Included is a hand tool for setting the high strength hollow rivets. Useful for blind fastening where there is no access to the reverse side of the work, the kit is used on products made entirely of plastic or having one or more plastic components to be assembled. Price is $57.50. • **United Shoe Machinery Corp.**, Shelton Div., Shelton, Conn.

For more details circle **NED-89 D1** on enclosed inquiry slip

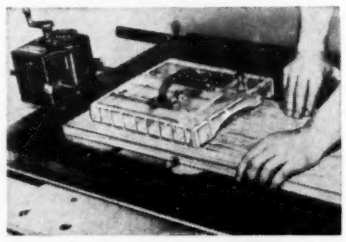
TEMPERATURE PELLETS
for indicating high heats

Three additions to the Tempil line of temperature indicating pellets bring to 94 the number of specific temperature ratings available. Pellets liquefy when their rated temperature is reached. The three new pellets are rated 2800, 2900, and 3000° F, and are accurate within 1 per cent of these figures. Complete range now is from 100 to 3000° F. • **Tempil Corp.**, 132 W. 22nd St., New York 11, N. Y.



For more details circle **NED-90 D1** on enclosed inquiry slip

CIRCULAR SAW GUARD
of transparent ½-in. thick acrylic



Much of the danger in operating table saws with 6 to 16-in. diameter blades is eliminated by this safety guard, especially useful in panel cutting operations. Device features a precision guard standard of cast aluminum and a shield of ½ in. thick shatter-resistant Plexiglas which covers the saw blade while allowing full vision. It can be used in miter, cross cut, compound miter, rip, dado, rabbet, feathering, diagonal, template, drop, plow, and tongue cutting operations. Shield is easily adjusted to cover the blade and prevent operator contact with the blade itself, and also acts as a guide to insure accuracy of cuts. **Brett-Guard Corp.**, 456 Nordhoff Place, Englewood, N. J.

For more details circle **NED-91 D1** on enclosed inquiry slip

Accuracy in Millionths...
NEW Roto-Grind Index Table

Roto-Grind® *for Precision in:*
• SURFACE GRINDING
• INDEXING • INSPECTION
• CONCENTRICITY • JIG GRINDING

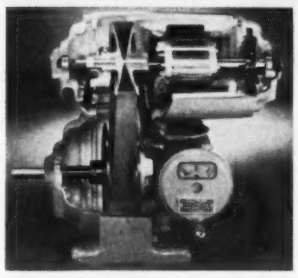
Roto-Grind® *Features:*
• VERTICAL OR HORIZONTAL SETUP
• MOTORIZED • 110V • VARIABLE SPEED CONTROL

Send for this free Roto-Grind fact file today!

M&M tool co.
1124 E. 3rd St., Dayton 2, O.

For more details circle **NED-92 D1** on enclosed inquiry slip

NEW VARIABLE SPEED DRIVE
requires no lubrication



Sterling Electric Motors has eliminated all lubrication maintenance problems. No part of their new variable speed drive needs to be lubricated.

All bearings, sealed and shielded, are factory-lubricated and therefore require no lubrication. Shaft surfaces are impregnated with a special exceptionally tough and wear-resistant material which eliminates need for lubrication. The nonmetallic bushings are also fabricated from a special material that is equally wear-resistant.

At no time do these surfaces require any attention. Even the keys are fabricated from a tough elastic material and will not wear out.

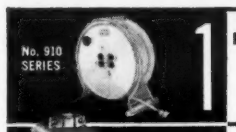
Fret corrosion, long a problem with metallic load-bearing surfaces, is completely eliminated since non-metallic surfaces now carry the load. Sticky pulleys, frequently the result of improper lubrication, are no longer a problem.

Sterling's new "Lube-Free" variable speed drive can be installed in any location, no matter how inaccessible, since lubrication maintenance is no longer needed.

• **Sterling Electric Motors, Inc.**, 5401 Telegraph Road, Los Angeles 22, California. *Advertisement.*

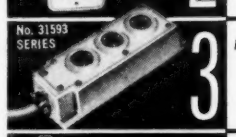
For more details circle **NED-93 D1** on enclosed inquiry slip

COMPLETE FOR YOUR PORTABLE POWER NEEDS



1 **PORTABLE CORD STORAGE REELS**
Four handy "U" blade 15 Amp. receptacles or, two styles of locking type receptacles.

2 **PORTABLE OUTLET BOXES**
For portable or pendant power needs. Ideal for use in tool kits and cases.



3 **MULTI-TAP WITH THREE RECEPTACLES**
Made for industrial plant portable power. Available with various types of receptacles.

4 **NEW HEAVY DUTY MULTI-TAP**
For four or eight outlets. Available with weatherproof covers, provision for fusing if required.

There's a "Safety Yellow" device to meet every requirement for multiple outlets, for tools, temporary lighting, emergency maintenance use, etc. All rubber parts are "Safety Yellow" NEOTEX.

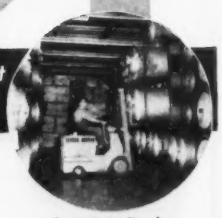
Write for your free booklet—Dept. 110

DANIEL WOODHEAD COMPANY
15 N. Jefferson St., Chicago 6, Illinois

For more details circle **NED-94 D1** on enclosed inquiry slip

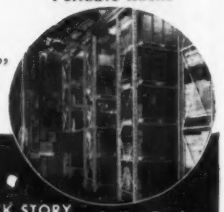
101 PALTIER WAYS TO STORE MORE IN LESS SPACE

PALTIER Racks—*the best quality for the least cost!*



Portable Racks

PALTIER manufactures the only rack system with all 12 of the most necessary quality engineered features and "Built Like a Skyscraper."



Pallet Racks

FREE...
The STORAGE RACK STORY. Write for your copy.

The PALTIER CORPORATION
1705 Kentucky Street • Michigan City, Indiana
Paltiersmen in All Principal Cities

For more details circle **NED-95 D1** on enclosed inquiry slip

Control VIBRATION with VIBRA-MOUNT®

Send today for this VALUABLE NEW BROCHURE on economical VIBRA-MOUNT vibration isolation pads. Eliminate damage to machinery and floors. Available in standard and PERF-O-GRIP* design for maximum isolation (stops creep and crawl).
Your VIBRA-MOUNT distributor will help you select the proper VIBRA-MOUNT and give experienced advice on installation methods.

American Felt Company
701 Glenville Road Glenville, Conn.

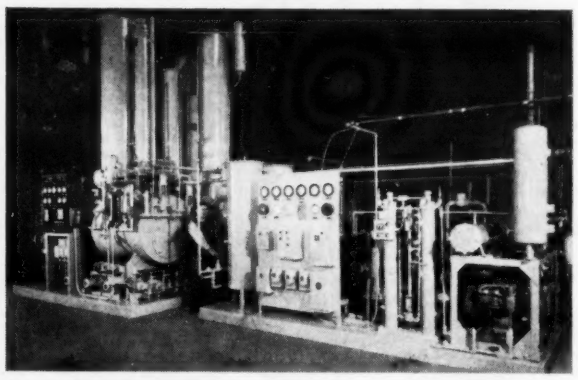
▲ For more details circle NED-96 D1 on enclosed inquiry slip ▲

DeMARKUS

PACKAGED GAS PLANTS

for producing your own

CO_2 • NITROGEN • INERT GASES



Large users of these gases (and dry ice) can reduce costs greatly by producing their own high-purity gases.
DeMarkus Automatic Packaged Gas Plants produce 50 to 500 lbs. per hour of CO2 for about 1c a pound and 2800 to 28000 SCFH of nitrogen for less than 2c per 100 SCFH. Compare these figures with your present costs.

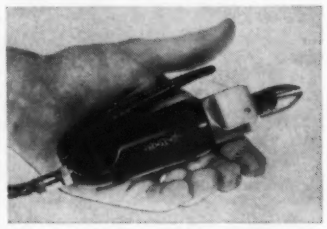
Write for Bulletin CD-260 and a preliminary cost study.

Hydrogen and gas purification plants also available.

LOUIS DeMARKUS CORPORATION
and DeMARKUS INTERNATIONAL CORPORATION
(Western Hemisphere outside U.S.A.)
Specialists in Gas Manufacturing and Purification Processes
3089 MAIN STREET, BUFFALO 14, N. Y., U.S.A. • Cable Address: DICO Buffalo
In Europe: N.V. "AMA", ALKMAAR, HOLLAND

▲ For more details circle NED-97 D1 on enclosed inquiry slip ▲

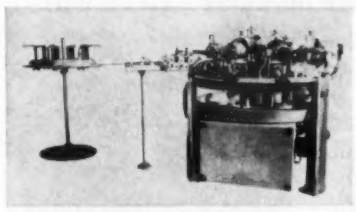
AIR-OPERATED WIRE CUTTER
6½-oz tool operates on 90 psi



Plier-type UA-100 wire cutter is an air-operated tool designed for use on large volume electronic production lines. The 6½-oz tool can be used in either hand and cuts as quickly as actuating lever can be depressed and released. Jaws are tapered for getting into restricted areas and have hardened cutting edges. Each tool has an 8-ft air line and operates on 90 psi. • **Kelsey-Hayes Co.**, Utica Drop Forge & Tool Div., 2500 Whitesboro St., Utica 4, N. Y.

▲ For more details circle NED-99 D1 on enclosed inquiry slip ▲

AUTOMATIC INDEXING MACHINE
produces up to 2100 parts per hour



Production of up to ⅜ x 1½-in. ferrous and nonferrous metal parts is performed at a rate of 2100 per hour on this German - made Amba automatic indexing machine. It produces contact brushes, clips, plug pins, and similar electrical parts in nine indexed operations which include wire straightening, cutting, drilling, tapping, milling, and slotting. Each operation has its own motor, electric clutch, and blower for cooling. All work heads are located in operational sequence on the index table. Machine can be hopper, coil, or bar fed and handles rounds, hexes, squares, and profile materials. • **Imported Machinery Sales Co.**, Box 148, Berea, Ohio.

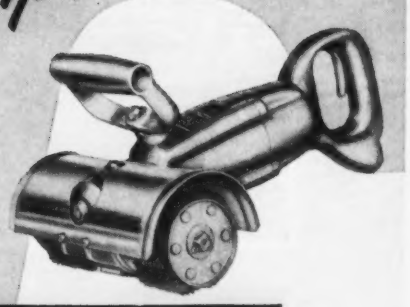
▲ For more details circle NED-100 D1 on enclosed inquiry slip ▲

METAL CUTOFF MACHINE
is high speed, chop-stroke unit

Job shop or production cutting operations are handled readily with this GR Series of low cost metal cutoff machines. Powered by a 10-hp totally-enclosed fan-cooled motor, they have ample overload capacity. Standard equipment includes miter, notch, and coping attachments, and provision for cutting without holding or clamping of work. Fast cuts are made in angle iron, bar stock, tubing, pipes, and shapes with the special steel cutting blade. • **Stone Machinery Co.**, Manlius, N. Y.

▲ For more details circle NED-101 D1 on enclosed inquiry slip ▲

Chip Away



SCALE
RUST
PAINT

AURAND
CLEANING TOOLS
ELECTRIC OR PNEUMATIC MODELS

Surfaces are cleaned quickly with AURAND on the job. Hardened steel cutters zip away stubborn accumulations from iron, steel, brick, concrete. Adjustable depth shoe protects surface . . . assures uniform cleaning. No special skill required. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

AURAND MFG. & EQUIPMENT CO.
1322 Ellis St., Cincinnati 23, Ohio
Canadian Distributor:
E. B. Peerless, Ltd.
5934 Fraser St., Vancouver 15, B. C.

▲ For more details circle NED-102 D1 on enclosed inquiry slip ▲

B.F.Goodrich Steel Protected tires take the bite out of brick handling

TW Analysis Man's recommendations result in longer tire service, lower tire costs

At Bowerston Shale Co. fork lift trucks transport 3700-lb. loads of brick from kiln to storage area, then to trucks and freight cars. An efficient system, except that chipped bricks on concrete floors were forever putting the bite on tires and the company pocketbook. "We could count on a new tire every time a truck ran over chipped brick," says the plant superintendent.

To stop rising downtime and costs, the company called in the B.F.Goodrich Tire & Wheel Analysis Man. He studied the situation, then recommended B.F.Goodrich Steel Protected pneumatic industrial tires. They're built with 2 plies of steel cable under the tread that shrug off impacts and defy punctures. Brick chips have yet to put the bite on BFG Steel Protected tires. They've stood up so well many can be retreaded!

This case history is typical of the savings B.F.Goodrich Tire & Wheel Analysis Men offer. Without cost or obligation, the TW Analysis Man will study your setup. Then he'll recommend the BFG tires that will give longest service at lowest cost—advice that is unbiased because B.F.Goodrich makes a complete line of industrial tires. Take advantage of this free BFG service. Mail the coupon today.

A special B.F.Goodrich consulting service is available to manufacturers of materials handling equipment.

B.F.Goodrich
Specify B.F.Goodrich tires when ordering new equipment

The B.F.Goodrich Company
Department TW-838
Akron 18, Ohio

Please send me additional information on your free Tire and Wheel Analysis Plan.

Name_____
Company_____
Street_____
City_____ Zone____ State____

▲ For more details circle NED-103 D1 on enclosed inquiry slip ▲

Boost Production • Cut Down-Time

with **DOTCO AIR TOOLS**

ULTIMATE IN SPINDLE ACCURACY
RUN-OUT .0005 MAX.

Built with power-plus to do MORE work at greater speed, with less maintenance down-time and longer tool life—DOTCO's wide range of air tools feature distinctive 4-vane rotary air motors that run cool and vibration-free at higher speeds with extreme accuracy, reduce user fatigue, hold maximum run-out to .0005 on all collet-type grinders.

Erickson collet chucks are standard.

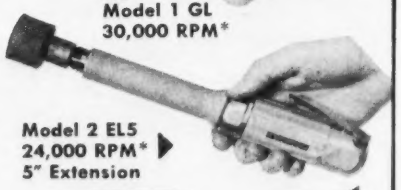
Straight or right-angle models for manual or machine operation of burs, drills, mounted wheels, sanding discs, routers, etc.; handy lever, button or push-pull sleeve valve control.

Write for Data Sheets

Model 1 AE
12,000 RPM

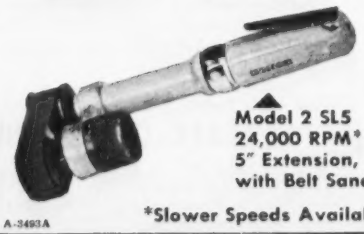
Model 2 GL
25,000 RPM*

Model 1 GL
30,000 RPM*



Model 2 EL5
24,000 RPM*
5" Extension

Model 2 ASP9
8500 RPM;
Push-Pull
Valve Control



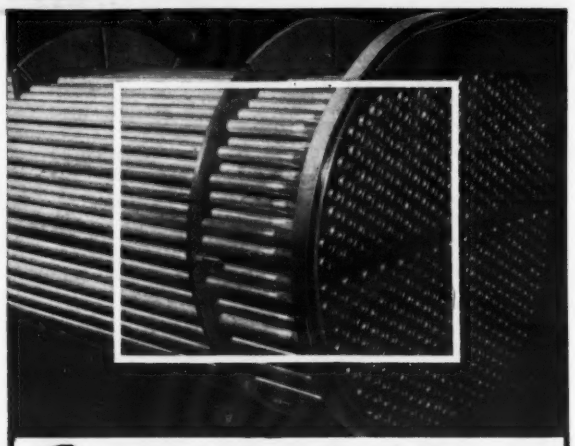
Model 2 SL5
24,000 RPM*
5" Extension,
with Belt Sander

*Slower Speeds Available

DOEDEN TOOL CORP.
Ohio Route 18 East • Hicksville, Ohio
Do it with DOTCO • Production Proven BEST since 1953

A-3493A

▲ For more details circle NED-98 D1 on enclosed inquiry slip ▲



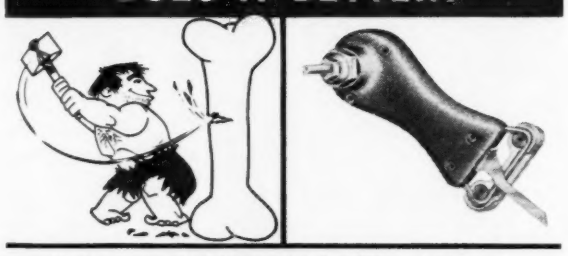
Transferring Heat?

. . . then look at the comparison above. The white rectangle in the photo represents the surface area of a length of plain tube. The entire photo shows the surface area of a piece of Wolverine Trufin® Type S/T of the same length. Both tubes are ¾" O.D. This is dramatic proof of the extra *surface* area Trufin provides. Yes, you get extra *service* too. Write.

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. L, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals 9597

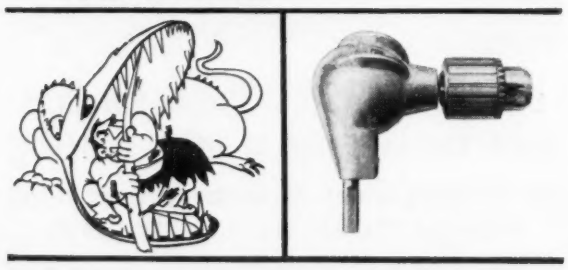
For more details circle **NED-104 D1** on enclosed inquiry slip

SOMETIMES A P&R TOOL DOES IT BETTER!



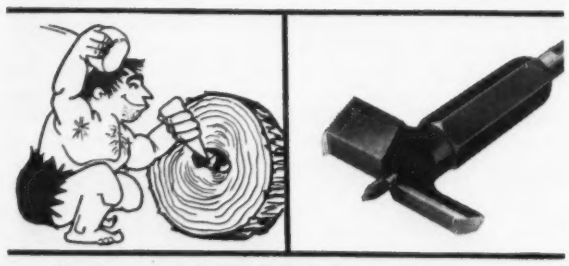
Maybe you don't cut bones—but this little portable saw is the handiest tool you'll ever own! Fits any ¼" drill or flexible shaft—cuts 'most any material you name from steel pipe, sheet metal or conduit to masonite, plaster and fibreglass. Straight, contour or flush cuts... king-sized 4¼" net cutting capacity. A tough, rugged little production tool at a price that defies comparison!

HANDY ANGLE SUPREME SAW **$29.75**
Complete w/assorted blades



Tight spots occur on every job. When they do... and the going is tough... a "Grips Rite" Angle Head is worth its weight in dinosaur teeth! Fits your ½" electric drills—lets you work between 12" centers. Design features include specially hand-contoured for comfort, 2-to-1 gear reduction for maximum control, 3 flats on shank shaft for non-slip chucking.

GRIPS RITE ANGLE HEAD **$34.75**
W/key-type chuck



Okay, so cavemen didn't worry about saving time and money on boring holes! But don't you? Planetor portable bits are called "magic feed" because they are just that—their exclusive Magic Feed threads carry the bit through heavy boring with a speed and ease no other bit can equal! Pilots are replaceable, heads interchangeable. Bearcats for d-e-e-p hole boring fitted with exclusive new chip ejector!

PLANETOR MAGIC FEED BITS
57 sizes, 3/4" to 4-1/2" by 1/16ths; shanks 3-1/2" to 18"

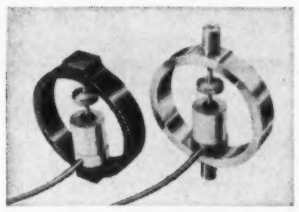
Ask your tool jobber for information on fully-guaranteed Parco tools—or write

Price & Rutzebeck
P. O. Box 30 • Hayward, California

THE RIGHT TOOLS FOR YOUR JOB — P&R CO.

For more details circle **NED-105 D1** on enclosed inquiry slip

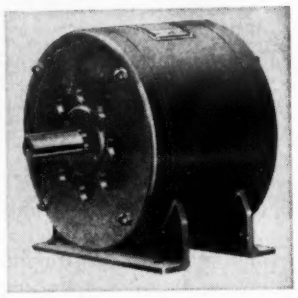
LOAD CELL
picks up static, dynamic forces



Load ranges from 25 to 4000 lb, compression or tension, are available in the Type PR-35 stainless steel load cell. It employs a calibration-quality proving ring coupled inductively to an ultrasensitive differential transformer. Over 500 mv output is provided with 10-v, 60-cycle input, or more than 1 v output with 10-v, 400-cycle input. Static and dynamic forces are picked up, and tare adjustment is provided. Operating temperature range is −115 to 500° F. • **United Aero Products Corp.**, Columbus Road, Burlington, N. J.

For more details circle **NED-106 D1** on enclosed inquiry slip

LOW-SPEED GENERATOR
is three-phase 60-cycle ½-kva unit



Doubled capacity without increase in size or weight has been achieved in this Nobrush 60-cycle 1200-rpm generator. It now delivers 0.5 kva three phase. Features include cool efficient operation, brushless construction, high overload capacity, and freedom from short circuits. • **Georator Corp.**, Box 472, Manassas, Va.

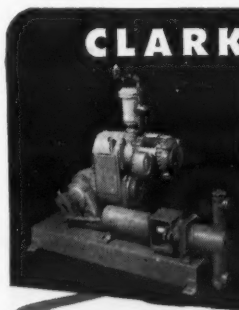
For more details circle **NED-107 D1** on enclosed inquiry slip

INSULATED SLIDING DOOR
L-shaped to pass conveyor rail

Losses in refrigeration are minimized in processing, cold storage, and other cooled areas by using this L-shaped single sliding meat rail door. Designed for use in meat packing plants, but usable in any areas requiring overhead track movement of products, it eliminates the need for a notch or cut-out in the overhead conveyor track. Full doorway insulation is assured by a panel fitting snugly into the L-shape opening. Open door time is minimized. Door is made for either manual or Prest-O-Matic operation. The latter air or electric power operator is easily added to a manual door at any time. Packaged door is easily installed and takes up no floor space as it rolls along a bare wall. • **Clark Door Co.**, 515 Hunterdon St., Newark 8, N. J.

For more details circle **NED-108 D1** on enclosed inquiry slip

CLARK-COOPER has a Metering Pump to suit your needs



Clark-Cooper pumps provide accurate, repeatable flow metering of all liquids, slurries and suspensions.

Clark-Cooper offers a complete line of interchangeable diaphragm and plunger pumps for you to choose from.

Clark-Cooper pumps are proved in hundreds of industrial applications.

Capacities range from 1500 c.c./ph to 3400 GPH—pressures 10,000 P.S.I.—repeatable accuracies to ±½%.

Exclusive CC drop-out check valve system provides easy maintenance.

All CC pumps are exhaustively tested prior to shipment.

Write today for complete data

CC CLARK-COOPER DIVISION
FREDERIC B. STEVENS, INC.
Palmyra, New Jersey
REPRESENTATIVES IN ALL PRINCIPAL CITIES

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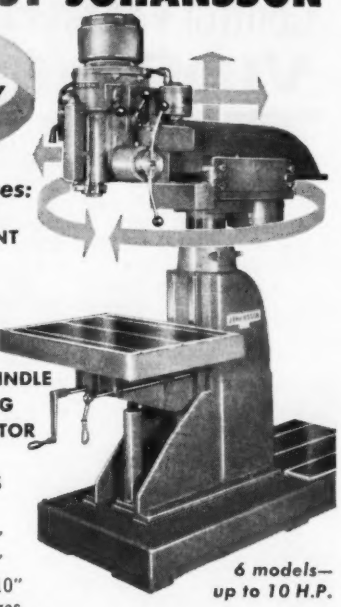
THE NEWEST JOHANSSON

RADIAL Heavy Duty DRILL



Check these features:
- ★ 2 WORK STATIONS
- ★ GEAR DRIVE—INSTANT SPEED SELECTION
- ★ EXCLUSIVE—RAM & COLUMN LOCKS
- ★ POWER COLUMN ELEVATION
- ★ POWER FEED TO SPINDLE
- ★ AUTOMATIC TAPPING
- ★ BUILT-IN TOOL EJECTOR

SPECIFICATIONS

Radial Arm	2½, 3, 4-foot
Column Diameter	6"-12"
Drill Capacity	UP TO 3"
Spindle Travel	5"-10"
Spindle Speeds (8 or 16) Ranges from 34 RPM Low to 4000 RPM High	
Spindle to Work Surf., Max.	54"
Spindle to Work Surf., Min.	3½"-6"

6 models—up to 10 H.P.

Send for catalog

I. O. JOHANSSON CO.
7254 ST. LOUIS AVE., SKOKIE, ILL.
JOHANSSON MACHINE TOOLS

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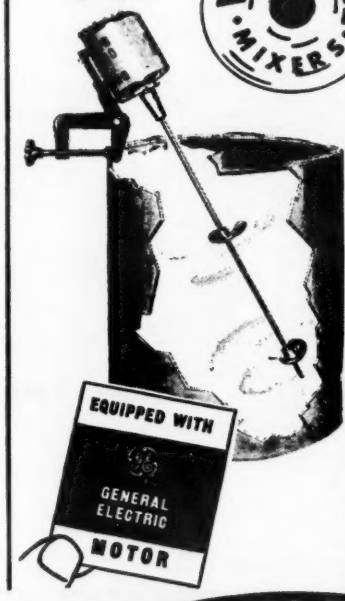
MODEL MX13 ⅓ H. P.

WHIRLPOOL MIXERS

Only **$42.50**
PAYS FOR ITSELF IN LESS THAN ONE WEEK



SPECIFICATIONS:

Stainless steel shaft, 36" long, removable and interchangeable. (Any length can be furnished.)

Stainless steel propeller, 2—4" push-pull. (Push only can be furnished.) Carefully made and balanced. New design by Aaron gives uniform thickness, no blow holes and no vibration. Adjustable in position anywhere on the shaft.

GENERAL ELECTRIC new form G all angle motor, ⅓ H. P., 115 volt, 60 cycle, single phase, A. C. motor, 1725 RPM.

Base and clamp, heavy cast iron, notched to give rigid locking and swivel at any angle of adjustment.

APPLICATIONS:

Mixes liquid and compounds in tanks or 55 gallon drums. Thousands in use for beverages, adhesives, dyes, clay slip, foods and juices, chemicals, pharmaceuticals, cosmetics, and many other liquids. At a price so low it is economical to have it attached to the mixing vessel even when used for only a few minutes a day.

STANDARD ELECTRIC MANUFACTURING COMPANY
WEST BERLIN, N. J.

For more details circle **NED-111 D1** on enclosed inquiry slip

The SAFE cleaner for electric motors

SAFETY SOLVENT DEGREASER

Safe from toxic fumes and fire!

Approximately 25 times safer than carbon tetrachloride! SS-25 has a dielectric constant of 25,000 volts . . . with none of the fire hazards of petroleum products such as kerosene and naphtha. Local fire marshals and plant safety engineers endorse SS-25 because of its non-flammable qualities . . . ease of use for spray or immersion cleaning.

- no flash at the boiling point!
- corrosion free – residue on drying zero!
- safe for skin
- removes grease and oils without damage to surface metal, paint or rubber
- prevents shorting of the commutator
- increases life of brushes
- prevents bearings from becoming clogged with grease and dirt

NATIONAL CHEMSEARCH CORP.
2417 Commerce Street, Dallas, Texas
Offices in: Los Angeles • St. Louis • New York

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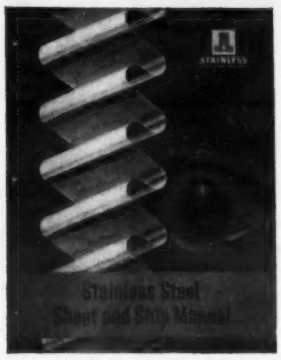
New Design Manual



Stainless Steel Sheet and Strip

Here's a brand new, 34 page manual giving design data on J&L Stainless Steel sheet and strip. Written to help the design engineer to select the best stainless for the requirements of his specific applications, it presents properties and performance data in easy-to-use form.

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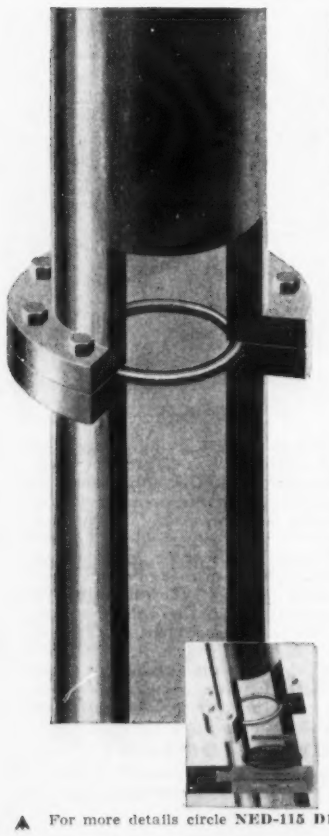


POSITIVE SEALS

−452° to 3000° F.

United Self-Energized Metallic O-Rings*...

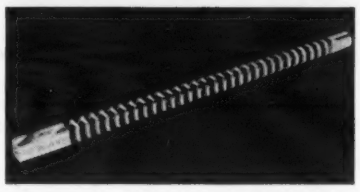
form permanent, non-corrosive, static seals under temperature extremes from −452° to 3000° F. and pressures from 10^{-4} mm Hg to 100,000 psi. Available in various metals and coatings (including Teflon** and silver) ¼" O.D. dia. to any size and configuration. United also makes non-vented and pressure-filled O-rings. **United Metallic "O" Rings, manufactured by United Aircraft Products, Inc., Box 1035, Dayton, Ohio.**

See United Metallic O-Ring Catalog in Sweet's Product Design File or write for Free Handbook

*Patents 2,809,269; 2,837,360
**DuPont registered trademark

For more details circle **NED-115 D1** on enclosed inquiry slip

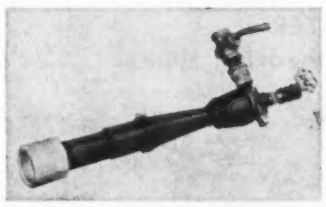
SQUARE BROACHES
⅞ and 1-in. sizes added to line



Two new sizes have been added to Minute Man line of square broaches. The ⅞ and 1-in. sizes extend the standard stocked line to 19 sizes ranging from ⅛ to 1 in. They are used in arbor presses to finish a square hole to the exact size from a reamed or cast bore in one pass. • **Du Mont Corp.**, Greenfield, Mass.

For more details circle **NED-116 D1** on enclosed inquiry slip

GAS-BURNING TORCH
for portable or permanent use

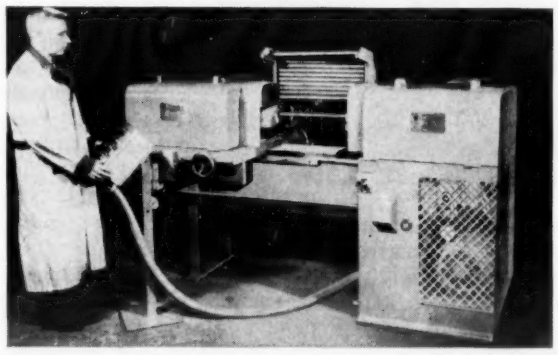


Capacities ranging from 40,000 to 3,000,000 Btu per hour are available in eight sizes of this High-Blast gas torch. It is usable for a wide range of industrial applications from melting and preheating to heat treating and brazing. It uses 20 to 100-psi shop air and natural, propane, or butane gas to produce a sharp, clean, high-blast flame. Adjustment is simple in this torch which can be supplied with handle for portable use or lugs for permanent mounting. • **Bryant Industrial Products Corp.**, 17700 Miles Ave., Cleveland 28, Ohio.

For more details circle **NED-117 D1** on enclosed inquiry slip

TUBE-END FINISHER
for up to 3-in. rod, pipe, or tube

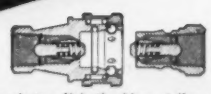
Operating at rates to 3000 finished ends per hour, Model 66 double-end finishing machine handles tube, pipe, rod, and similar workpieces with diameters to



3 in. and lengths to 10 ft. Typical operations include inside and outside deburring, chamfering, facing, and other light pointing or forming work. Machine cycles automatically, is easily set up, and has hydraulic Chute-Matic feed. • **Pines Engineering Co.**, 601 Walnut St., Aurora, Ill.

For more details circle **NED-118 D1** on enclosed inquiry slip

• To connect a Hansen Two-Way Shut-Off Coupling, merely pull back the sleeve on the Socket and push in the Plug. To disconnect, just pull back the sleeve. Furnished in brass or steel with female pipe thread connections from ⅛" to 1½" inclusive. Also available in sizes up to 1", in stainless steel.



Instantly shuts off both sides of line... prevents loss of liquid, gas or pressure.

Write for the Hansen Catalog...
a ready reference when you want information on couplings in a hurry.

Representatives in Principal Cities

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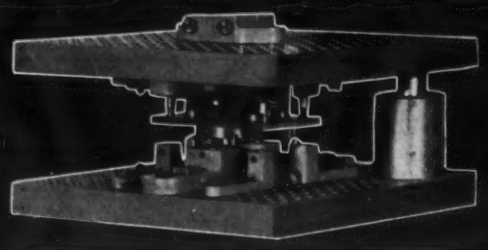
Di-acro



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PUNCHES and DIES

A time and money saving means of rapidly tooling for simultaneous punching of multiple holes in a variety of shapes and sizes. All tooling can be reused again and again. Available with round, oval, rectangular, square and special irregular shapes.

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pronounced "die-ack-ro"

DI-ACRO CORPORATION
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784 Eighth Ave. • Lake City, Minn.

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- Stops hoist & crane overloading
- Automatically cuts off power to motor when load exceeds pre-set weight.
- Can also ring bells, operate warning lamps, etc.
- Assures protection for personnel & equipment
- Easy to install. Hook models optional.
- Lightweight, compact, dead accurate.
- Working range 500 to 20,000 lbs.
- Will flex millions of cycles without losing resiliency.

YOURS FREE! Illustrated brochure and low price list. Write **today!**

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PROVEN...

BACKUS CUT-OFF MACHINES

For High-Speed Cutting of All Types of Metals and Materials

At Any Angle!

Backus Cut-Off Machines make the finest precision cuts on any material, **at any angle**, to meet your most exacting cutting requirements. Precision engineered, these machines — complete-ready-to-operate — combine sturdy construction with the exclusive Backus leverage control. **SEE YOUR MACHINERY DEALER OR WRITE TO BACKUS FOR BROCHURE!**

8", 10" & 12" Abrasive and Non-Ferrous Models

BACKUS MACHINE WORKS

Since 1914 ROUTE 17, DEPT. NED CARLSTADT, N. J.

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SERIES 300 PROPORTIONING PUMPS

ADJUSTABLE IN OPERATION FROM ZERO TO FULL CAPACITY

For maximum versatility and absolute minimum maintenance the Series 300 incorporates these quality American design features:

- Interchangeable liquid ends.
- New cam adjustment mechanism controls pump plunger stroke from any point from zero to maximum output.
- Compact housing—all moving parts enclosed
- E-Z Clean Cartridge Valves for simple maintenance.
- Plunger (diameters from ¼" to 2¾") serviceable without disturbing the adjustment mechanism.

Available with plungers and liquid end in ceramics, chrome plate stainless steel. Remote or automatic controls also available. Write American Meter Company for full details.

AMERICAN® METER COMPANY INCORPORATED ESTABLISHED 1836
pump division
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Now Only $350.00 F.O.B. Chicago

Extra rugged construction for Heavy Duty Use. Precision built, BT fork-type PALLET TRUCKS are fully hydraulic, easy to use, highly maneuverable. Pivots 90°, both directions. SKF ball-bearing wheels, (your choice of steel, rubber or bakelite wheels at no extra cost). For single or double face pallets and skids. Lowered Height: 3¼"-5" Lift. A real buy.

Model BT-24
2400 lb. Capacity.....$350.00
Model BT-44
4400 lb. Capacity ...$395.00
WRITE - WIRE — PHONE

YOUR CHOICE OF SIZES IN EITHER MODEL:
Fork Widths: 20½" or 27"
Fork Lengths: 36", 42" & 48"
(Specify width, length and wheel type when ordering)
(Dealer Inquiries Invited)

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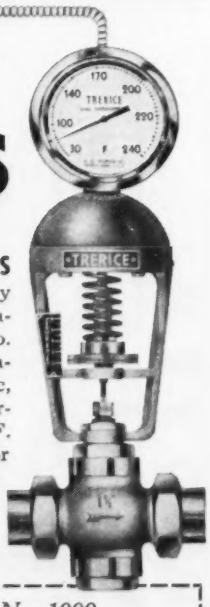
Here's how you can save money by DEGREES



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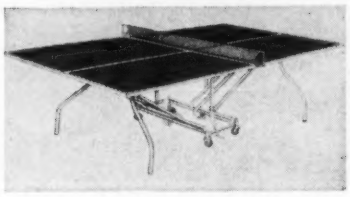
FOLDING PING-PONG TABLE
rolls quietly on swivel casters



Four swivel casters make it easy to roll the 512 folding table-tennis table from storage area to plant game room or recreation area. Table is of birch plywood with nonglare green finish and has recessed legs. Net stores in tucked position when table is folded and extends to proper width when table is opened. Paddles can be stored in special brackets in the back of the table. Entire table folds into a 5-ft 2-in. high by 18-in. wide unit. • **Midwest Folding Products Sales Corp.**, Roselle, Ill.

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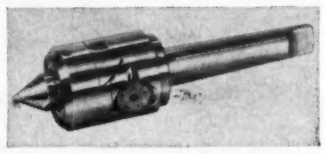
ADJUSTABLE CENTER
plain and ball bearing types



Adjustment of this center is made through a hardened and ground feed screw which actuates a dovetail slide that moves in increments of 0.0005 in. Movement 3/16 in. each side of center is shown on a calibrated dial. Accurately aligned in seconds, the center is offered in plain and ball bearing types in various styles and sizes. Shanks are interchangeable. • **Chandler Tool Co.**, 514 Ohio Ave., Muncie, Ind.

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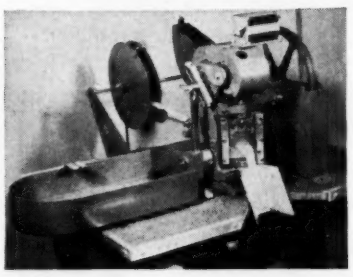
WEB OR STRIP CUTTER
makes up to 100 cuts per minute



Ribbon, tape, webbing, strapping, and other strip materials are cut into lengths up to 27 in., in any combination of angles up to 45 degrees, and at speeds up to 100 cuts per minute by this Trimco angle strip cutter. Table, motor, and reset counter are standard equipment, whereas a predetermined counter is optional. Strip width can be up to 2 in. on straight cuts and 1¼ in. on maximum angle cuts. Operated by a ¼-hp, 110 or 220-v single-phase motor, machine shuts off automatically as supply of material is exhausted. Model AR cuts to 18-in. lengths; Model AS-27 to 27-in. lengths. A 40-psi air operated Model B is available for cutting materials up to 5½ in. wide at speeds to 75 cuts per minute. • **Ginsberg Machine Co.**, 224 Fifth Ave., New York 1, N. Y.

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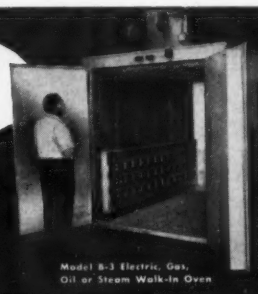
WALK-IN OVENS


Model B-3 Electric, Gas, Oil or Steam Walk-In Oven

Shipped set up—merely uncrate and connect

Thorough factory testing assures immediate operation. No installation crews or plant tie-up.

- High velocity recirculating blowers
- Greater heat input
- Adjustable louvres for balanced airflow
- Superior heat seals

These efficient, rugged walk-in ovens incorporate the latest convenience features and safety devices.

Six Standard Models

- Work space from 96 to 240 cubic feet
- Temperature ranges:
  Standard to 650° F.
  Special to 1250° F.
- Factory Mutual approved electronic combustion safety devices
- Indicating temperature controller
- Factory tested and calibrated

Other ovens from $121.50 up, including a complete line of laboratory, bench, cabinet and custom-built units.

Write for literature to select the right oven for your application

Specialists in Heat Process Equipment

GRIEVE-HENDRY COMPANY, Inc.
1353 N. Elston Ave., Chicago 22, Illinois

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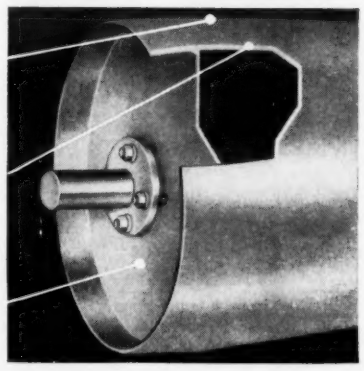
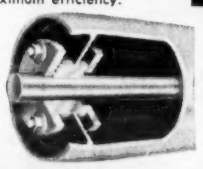
***CURVE CROWN DESIGN**
Accurately formed Curve Crown on rim outer ends eliminates belt stretch and wear . . . increases belt training effect more than 100%.

STURDY RIM CONSTRUCTION
Absolutely round one piece pulley rims formed under hydrostatic pressure. Seam machine-welded inside and out insures 100% weld penetration.

ACCURATE END PLATE ASSEMBLY
End plates O.D. and I.D. machined to insure concentricity between bore and outer rim. Pressed fit . . . submerged arc welding for maximum efficiency.





FEATURING "SQUEEZELOCK" HUB DESIGN
Revolutionary "Squeezelock" Hub design provides gripping power for full torque transmission without keyways plus eliminating distorting loads against pulley end plates.

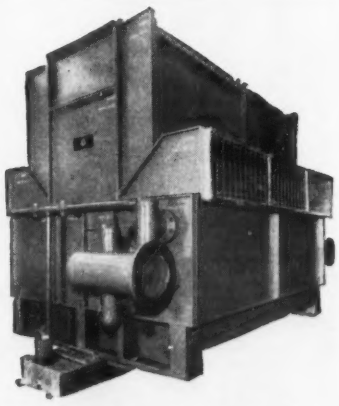
*PATENT APPLIED FOR

S-A

WRITE FOR BULLETIN 558
STANDARD PRODUCTS DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE • AURORA, ILLINOIS
PLANTS LOCATED IN: LOS ANGELES, CALIFORNIA
CLARKSDALE, MISSISSIPPI • BELLEVILLE, ONTARIO

▲ For more details circle **NED-131 D1** on enclosed inquiry slip ▲

You Get EXTRA SAVINGS From This Method of Compressed Air After Cooling



Cooling water savings and power savings quickly repay the cost of the Niagara Aero (air-cooled) After Cooler for compressed air or compressed gases. In addition its long life and the labor-saving simplicity of its maintenance give you an extra profit in comparison with water-cooled surface contact methods.

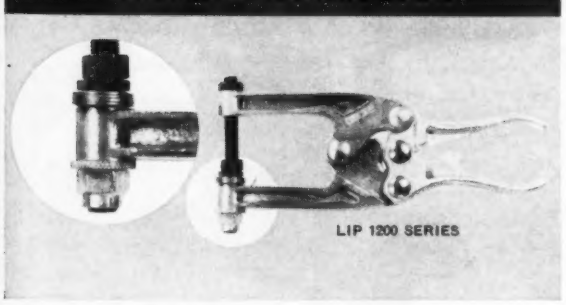
With the Niagara After Cooler the heat of compression is removed and dispersed into the atmosphere by the evaporation of a very small amount of water. The compressed air temperature is always brought below that of the atmosphere surrounding your air lines, so that no further condensation can take place.

Large users of compressed air for plant services or processes choose Niagara Aero After Coolers for their dependable durability. They have been making good records of service for over 25 years. Write for Bulletin 130.

NIAGARA BLOWER COMPANY
Dept. ED-4, 405 Lexington Ave., New York 17, N. Y.
Niagara District Engineers in Principal Cities of U. S. and Canada

▲ For more details circle **NED-132 D1** on enclosed inquiry slip ▲

NEW *KNU-VISE* LOAD INDICATING PLIERS GUARANTEE CLAMPING FORCE



These pliers are for applications where it is essential, and often critically so, that a certain clamping force be applied time after time—*regardless of the thickness of the work.*

In use, the adjusting spindle is set for the desired clamping force by trial clamping. When the proper force is obtained, the self-locking nut on the anvil is then adjusted so that the LOAD INDICATING WASHER moves "just smoothly" with the plier clamped on the work. Thus, once a certain clamping force has been established it can be readily duplicated on any other work thickness simply by adjusting the spindle so that the LOAD INDICATING WASHER again moves "just smoothly" after clamping.

Write for complete information.

Manufacturers of over 150 models of manually and air-operated clamps and pliers

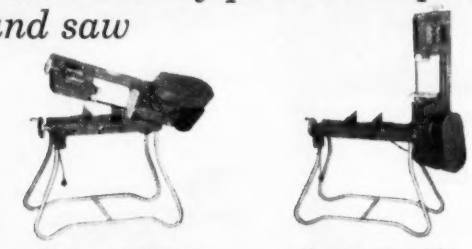
KNU-VISE PRODUCTS **LAPEER MANUFACTURING CO.**

3062 DAVISON ROAD
LAPEER, MICHIGAN

WESTERN DIV.: PECK and LEWIS CORPORATION
4436 Long Beach Ave., Los Angeles 58, Calif., ADams 3-7146
CANADIAN DIV.: HIGGINSON EQUIP. SALES LTD.
1131 Pettit Road, Burlington, Ontario

▲ For more details circle **NED-133 D1** on enclosed inquiry slip ▲

NOW . . . big machine quality in an economy priced compact band saw



Use it as a horizontal cut-off machine. Use it as an upright band saw.

THE NEW WELLS MODEL 300 METAL CUTTING BAND SAW

Would you like to make your metal cut-off jobs easier and more efficient? Would you like to be able to cut angles, slots, notches and bevels in the same machine?

You can do all of this with the new economical-to-buy and economical-to-use Wells Model 300 Metal Cutting Band Saw. Just check these features:

- 3½" x 6" capacity (3½" dia., rounds)
- Selective speeds of 54, 100, 190 ft. per min.
- Gravity feed and automatic shut-off for cut-off work
- Exceptionally rigid construction
- Well guarded—blade can be changed without removing guard
- Optional wheels and handle for complete mobility

Get full details on this remarkable value from your Wellsaw Representative or write for Bulletin No. 230.

Wells **SAW SPECIALISTS SINCE 1925**
WELLS MANUFACTURING CORP.
1313 Harding St., Three Rivers, Mich.
61-1A

▲ For more details circle **NED-134 D1** on enclosed inquiry slip ▲

Molded Polyethylene Drums...

Molded Polyethylene Drums—up to 55 gallon capacity for materials handling and storage. Specially designed for use where corrosion is a problem . . . last much longer than steel drums, yet are much cheaper than stainless. Molding insures uniform wall thickness. Drums are light, and easy to handle . . . easily cleaned and tightly sealed. Nesting when empty saves needed storage space. The most modern, practical way to handle and store materials today.

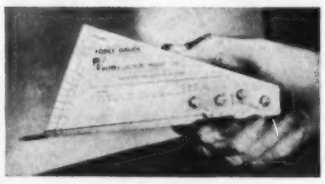
Write for information and prices to:

REDMANSON CORPORATION
630 Loucks Mill Road
York, Pennsylvania

Distributorships and Mfg. Representatives Territories available

▲ For more details circle **NED-135 D1** on enclosed inquiry slip ▲

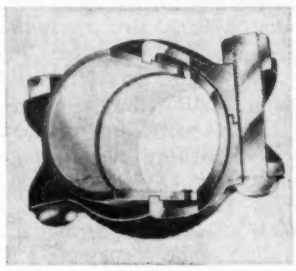
SWITCH FORCE GAGE measures ounces and grams



Characteristics of snap-action switches and application force requirements are measured in ounces and grams by this precision switch force gage. Size is about 6 in. It is offered for $1 to qualified switch engineers supplying their name, title, company name, and estimated yearly switch usage on a company letterhead. • **Cherry Electrical Products Corp.**, 1650 W. Deerfield Rd., Highland Park, Ill.

▲ For more details circle **NED-136 D1** on enclosed inquiry slip ▲

PIPE JOINT GASKET prevents fluid entrapment in joint



Style E end protection gasket used in Rigi-Grip coupling for cement or plastic lined pipe not only protects the joined pipe ends, but prevents the trapping of line fluids in the joint pocket. The one-piece, solid gasket with compression sealing rib completely fills the cavity between pipe ends. Couplings handle service pressures to 2000 psi at temperatures from −40 to 200° F. Gasket is available in 2, 2½, 3, 4, and 6-in. pipe sizes. Coupling performs equally well on either standard weight cut-grooved or light wall roll-grooved pipe with square or beveled ends. • **Gustin-Bacon Mfg. Co.**, 210 W. Tenth St., Kansas City, Mo.

▲ For more details circle **NED-137 D1** on enclosed inquiry slip ▲

STRAIGHT-IN WIRE TERMINAL eliminates looping of wire

Wires need not be looped when using the Straight-In wiring terminal. Serrations and a lip on the right side of the terminal help to make a tighter and better connection. Screw has tendency to tighten if wire is pulled. The UL-approved terminal is suitable for No. 14 to No. 8 A.W.G. solid or stranded wire. Terminals are now being used on most Wadsworth plug fuse circuit devices. • **Wadsworth Electric Mfg. Co.**, 20-34 W. 11th St., Covington, Ky.

▲ For more details circle **NED-138 D1** on enclosed inquiry slip ▲

NEW

Plug in anywhere on 110 volts A.C. or D.C.

Whether you work with metal, plastics, leather, rubber, wood or glass, this precision miniature power tool will ease and speed your work. No more gripping an unwieldy ¼" drill with both hands—Foredom's pencil slim handpieces are ideal for every sort of sensitive operation, leaving one hand free to hold or guide the work.

- 1/10 HP motor with speed range up to 12,000 RPM.
- New carbon-pile, continuously variable foot rheostat.

UL approved . . . For complete information, write today for Bulletin #213.

FOREDOM ELECTRIC COMPANY, INC.
Bethel, Connecticut
Manufacturers of Miniature Power Tools

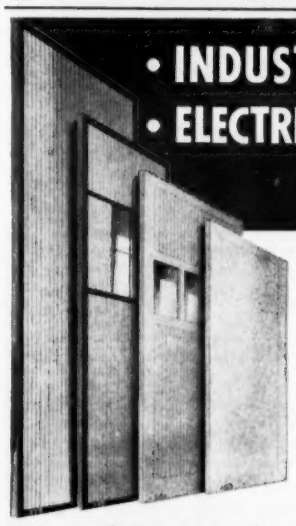
▲ For more details circle **NED-139 D1** on enclosed inquiry slip ▲

PRODUCTION-MINDED *and* PRECISE

GET THIS
Bulletin No. 2959 provides complete description, includes sectional drawing, lists features, gives specifications. It's FREE. Write for it now!

THE HAMILTON TOOL COMPANY
901 HANOVER STREET HAMILTON, OHIO

▲ For more details circle **NED-140 D1** on enclosed inquiry slip ▲



• INDUSTRIAL DOORS • ELECTRIC OPERATORS • HARDWARE

...R-W offers the most complete line available—all are designed for top service and maximum satisfaction!

R-W manufactures a complete line of doors, door hardware, fire doors and hardware and automatic electric operators that are specifically designed to economically meet the rugged demands of industry . . . and to fulfill these demands for years to come. Provides one dependable source for all of the equipment necessary to fill a door opening . . . components are "*made for each other*" to provide a perfect match. For the ultimate in quality, service, dependable operation and over-all economy—*make your industrial door installations 100% R-W Equipment.* Write today for free catalogs.

RICHARDS-WILCOX MFG. CO.
435 W. THIRD STREET • AURORA, ILLINOIS • Branches in Principal Cities

▲ For more details circle **NED-141 D1** on enclosed inquiry slip ▲

NEW

Foredom miniature power screwdrivers boost production of thermocouples 87% at Harco Laboratories, Inc., New Haven, Conn. Tedious and slow hand driving of the many small screws in each assembly is replaced by the swift, efficient Foredom action — with important savings of time and money.

Available in bench or hang-up model, the screwdriver has adjustable touch control, handles screws and nuts from #0 to #4.

Handpiece is 8" long, weighs only 5½ oz. Powered by 1/10 HP universal motor. For complete information, write now for Bulletin #224.

FOREDOM ELECTRIC COMPANY, INC.
Bethel, Connecticut
Manufacturers of Miniature Power Tools Since 1922

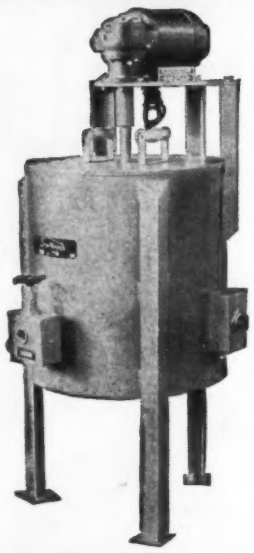
▲ For more details circle **NED-142 D1** on enclosed inquiry slip ▲

Sta-Warm ELECTRICALLY HEATED

CYLINDRICAL TANKS

for melting and dipping compounds

• Available in wide range of capacities and voltages and with a variety of useful accessories. All designed to fit your production specifications. Sta-Warm Melting Tanks are engineered with or without agitation to supply properly melted compounds economically and efficiently.



52MBW popular 15-gallon tank equipped with power agitator and heated gate valve.

WANT A CATALOG? WRITE TODAY.

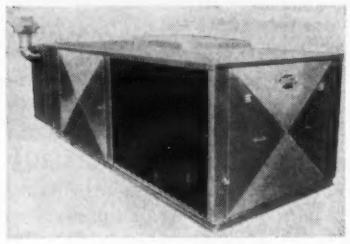
"If You Can Wrap a String Around It, Sta-Warm Can Heat It for You."

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
Subsidiary of ABRASIVE & METAL PRODUCTS CO.

For more details circle NED-143 D1 on enclosed inquiry slip

PLANT HEATER & COOLER

roof mounted unit heats, cools, filters, humidifies, dehumidifies



Unobtrusively mounted on plant roof, Atmos - Pak heating and cooling unit is packaged and ready to install. It can be factory assembled with practically any combination of elements to provide heating, cooling, humidification, dehumidification, filtering or electrostatic air cleaning, circulation, exhaust, or to serve other heating, ventilating, or air conditioning needs.

Cooling capacities range to 241,000 Btu per hour with Freon 22 compressors, heating to 240,000 Btu per hour with gas firing and to 370,000 Btu per hour with steam. As many roof-mounted units as are needed can be employed for practically any size plant. Air cooling eliminates need for cooling towers. The supply and return air distribution chamber eliminates need for ducts. Zone control of heating and cooling is simple. • **Air Conditioning, Inc.**, 88 N. Highland Ave., Ossining, N. Y.

For more details circle NED-146 D1 on enclosed inquiry slip

SAVE — MONEY — TIME — ENERGY

LEXCO HYDRAULIC LIFT TABLES

Capacities 500# to 2,000#.
Specials to 10,000#

Portable, adjustable height, Hand or Foot Operated. For lifting and transporting heavy castings, dies, etc., to machines and presses.

Also Die Handlers — Strip Stock Handlers — Drum & Barrel Cradles.

LEXCO ENGINEERING & MFG. CORP.
23 W. Chestnut St. • Souderton, Pa.

For more details circle NED-149 D1 on enclosed inquiry slip

Why QUICK DISCONNECTS *pay off*

Because Quick Disconnects are the **fastest, easiest** and **most economical** means of making or breaking a connection. They pay for themselves by reducing costly set-up time and maintenance costs.

A simple, one-hand operation—**connect or disconnect lines instantly.** No turning or twisting. Eliminates costly "wrench type" connections. Step-up production.

The Series "D" (2D & 4D) Couplings are **interchangeable** with all popular makes. A small, rugged lightweight coupling for air, liquids and gases. Designed for instrumentation, aircraft and industrial uses. Construction and performance meets Military Specification MIL-C-4109A.

Patented **PUSHOMATIC** locking forms a positive high-pressure and leak-proof connection. Buna N seals assure positive sealing. Shut-off valve in socket stops the flow when disconnected. Working Pressures to 7500 PSI.

The Series "D" has these **advantages**

Automatic Locking — **360° Swivel action**
One-hand Operation — **Integral shut-off valve**
Interchangeability

Four end types in pipe sizes 1/8" through 3/4" N. P. T.
Write for Interchangeable Coupling Bulletin 1500.

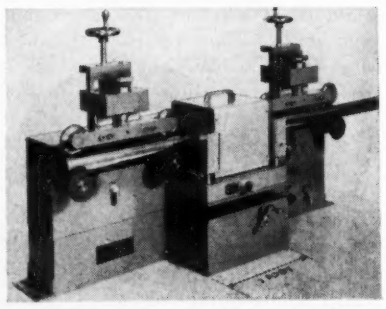
where God Constitutes COUNTS

PERFECTING SERVICE CO.
332 Atando Ave. Charlotte, North Carolina
Baltimore - Buffalo - Chicago - Cleveland - Camden - Los Angeles
New York - Providence - Montreal - Toronto - Hamilton, Canada

For more details circle NED-144 D1 on enclosed inquiry slip

TUBE & BAR STOCK FEEDERS

variable and constant speed types will locate material defects



Two drive units built to feed round tubing and bar stock incorporates eddy current through-coil test equipment which automatically locates defects in ferrous and nonferrous products. They are also suited for other feed applications. Easy access to coils provides for rapid changeover of size of rod, wire, and seamless or welded tubing and pipe. Tube X-2316 feeder (shown) for 1/4 to 4-in. diameters has a variable speed drive which affords speeds from 40 to 400 fpm. Four powered driving rolls (Bakelite or steel) provide positive tracking through the coil and four upper spring-loaded, rubber-tired holddown rolls adjust to various diameters.

Smaller Type X-2366 is a constant speed, 180 or 300-fpm feeder with a 1/4 to 1 1/2-in. diameter range. Other speeds are obtained through pulley changes. Driving and holddown rolls are similar to Type X-2316. Both operate on 110 v, 60 cycles, single-phase ac. • **Magnaflux Corp.**, 7300 W. Lawrence Ave., Chicago 31, Ill.

For more details circle NED-147 D1 on enclosed inquiry slip

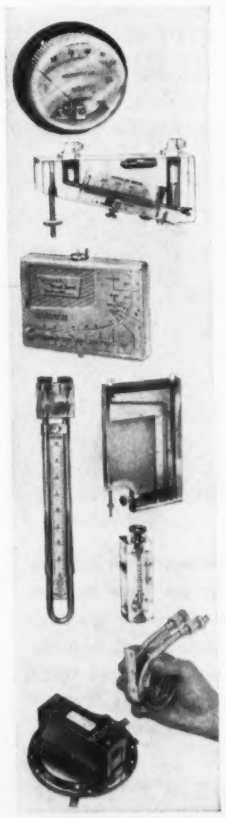
For the latest in Gages... Controls

check the new

Dwyer

INSTRUMENT MANUAL

Need a meter for *direct* reading of both air velocity and static pressure? An inexpensive gage that tells home-owners when to change air filters? A complete, accurate combustion test kit, or a manometer that *rolls* up to fit compactly in your tool box? You'll find these and many more money-saving ideas described in this free Dwyer manual. It's packed full of valuable information about Dwyer's complete line of instruments.



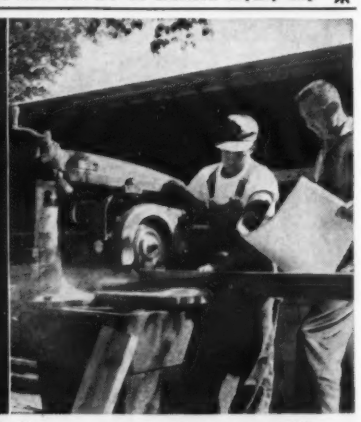
- Magnehelic Gages . . . velocity, resistance, draft, static and gas pressure.
- Inclined Tube Gages . . . draft, velocity, slight pressure variations.
- Air Filter Gages . . . models for every installation.
- Hook Gages . . . a true low pressure calibration standard.
- Air Velocity Meters . . . direct reading of air velocity and static pressure.
- Flowmeters . . flow measurement of gas
- Wind Speed Indicators
- Slack-Tube Manometers . . . roll-up types.
- Flex-Tube Manometers . . . U-tube, well types.
- Inclined-Vertical Manometers
- Combustion Test Kit . . . for CO_2 content, draft, temperature, smoke.
- Pitot Tubes . . . inch-graduated, stainless steel.
- Pressure-Actuated Switches
- Special Instruments, Designs

Send for your free copy today

F. W. DWYER MFG. CO.
P.O. BOX 373-Q • MICHIGAN CITY, INDIANA

For more details circle NED-150 D1 on enclosed inquiry slip

NEW DEWALT IDEAS BUILD NEW PROFITS!



Does new jobs...no extra cost!

DEWALT reduces your investment 60% or more. It does the work... saves the cost and space... of *many* power tools. Use coupon for free copy of new DeWalt IDEA BOOK.

DEWALT, Inc., Dept. NE461, Lancaster, Pa.
Please send free DeWalt IDEA BOOK.

Name_____

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City_____ State_____

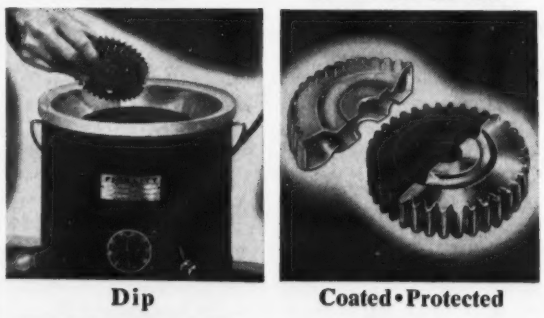
Custom-built by DEWALT, Inc., A *Black & Decker* SUBSIDIARY

For more details circle NED-145 D1 on enclosed inquiry slip

HOT MELT PLASTIC COATINGS

for GEARS • TOOLS • PRECISION PARTS

BEFORE — SECONDS AFTER



Dip — Coated • Protected

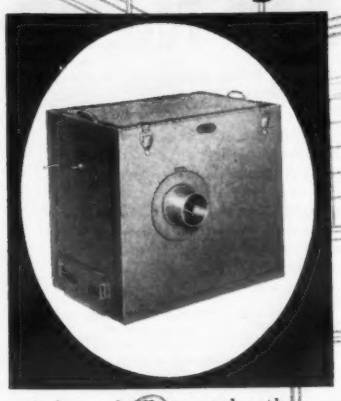
DIP-PAK Protect vital, expensive tools, gears, and machined parts during storage and shipping with Fidelity's durable, transparent plastic coatings. Merely melt coating briquette, dip parts, cool. Lasts indefinitely. Tough; abrasive, moisture, rust resistant. To remove, slit, peel. Re-melt, re-use coating. Economical, practical, rapid. Protect parts; save money.

Write for Bulletins and Free Samples
Fidelity Chemical Products Corp.
478 Frelinghuysen Avenue, Newark 5, N. J.

For more details circle NED-148 D1 on enclosed inquiry slip

DUSTKOP "520"
designed to collect dust from single machines

portable—easily installed



DUSTKOP STOPS DUST

Self-contained Dustkop models, like the "520," are practical and effective in collecting dust from single machines. They're designed specifically for service with surface grinders, tool and cutter grinders, offhand grinders, buffers and other small wheel equipment. These units are also easy to install — are actually portable — and very economical to operate.

Write for illustrated literature . . . 46 models to choose from!

NEW DUSTKOP AUTO SHAKER shakes filters AUTOMATICALLY

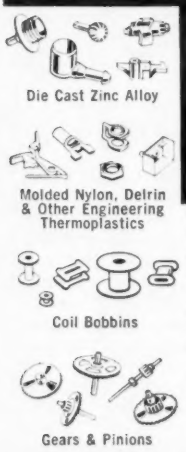
AGET manufacturing company — ask for details

1396 E. Church Street, Adrian, Michigan

For more details circle NED-151 D1 on enclosed inquiry slip

GRC tiny parts

Die Cast ZINC ALLOY Molded PLASTICS



"SMALL ZINC ALLOY DIE CASTINGS"

Fact-filled booklet contains helpful designer's check list, exclusive GRC methods to help you create new products at substantial savings.

GRC's unique high speed, automated methods give you high quality, uniformly accurate small parts in die cast zinc alloy or molded Delrin, Nylon and other engineering thermoplastics . . . **at low cost.** GRC experience and exclusive techniques open the way to new design freedom, new production and assembly shortcuts. Write, wire, phone NOW for samples and detailed bulletins. Send prints for prompt quotation.

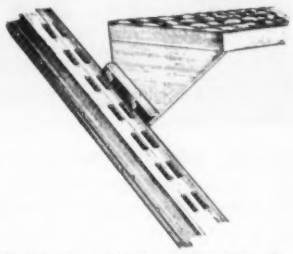
NO MINIMUM SIZE! Maximum sizes:
Zinc Alloy—1¾" long, ½ oz.
Plastic—1¼" long, .03 oz.

GRIES REPRODUCER CORP.
World's Foremost Producer of Small Die Castings
143 Beechwood Avenue, New Rochelle, New York • NEw Rochelle 3-8600

For more details circle NED-152 D1 on enclosed inquiry slip

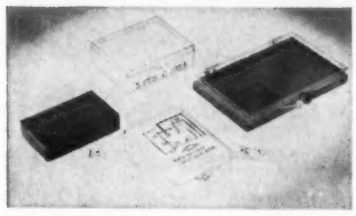
STORAGE RACK STAIRWAY
has safety tread, is easily mounted

Stairways to elevated platforms on Ridg-U-rak storage rack systems are easily erected with these Safety Tread stairway units. They lock securely and easily in inclined rack members, and can be removed for reuse in another set-up. Safe access to various rack levels can be provided with these stair tread units in combination with metal framing. • **Bernard Gloekler North East Co.**, North East, Pa.



For more details circle NED-154 D1 on enclosed inquiry slip

BOX IMPRINTING MACHINE
marks 3600 pieces per hour



Plastic or metal boxes, such as those shown in picture, as well as covers, pans, and similar items are color imprinted at speeds up to 3600 per hour by Model 70AB printing machine. Imprints up to 2 x 3 in. can be stock numbers, trademarks, or installation and wiring diagrams. Machine is chute or automatically fed, and ejection is automatic. Quick-change type allows varying the printed information without significant loss of production time. • **Markem Machine Co.**, 170 Congress St., Keene, N. H.

For more details circle NED-155 D1 on enclosed inquiry slip

WIRE MESH LOCKERS
allow free passage of air

Reportedly providing 60 per cent more air circulation than conventional lockers, All American commercial and industrial lockers let clothing, uniforms, and equipment air out and dry quickly and thoroughly. Dampness and mildew are held to a minimum. Lockers are available in 12, 16, and 18-in. full-length sizes, and in double tier types in 12 and 18-in. widths 36 in. high. They are furnished in seven standard baked enamel finishes or in custom colors. • **DeBourgh Mfg. Co.**, 2924 27th Ave. S., Minneapolis, Minn.

For more details circle NED-156 D1 on enclosed inquiry slip

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC. 192 MILL STREET ROCHESTER, NEW YORK

For more details circle NED-158 D1 on enclosed inquiry slip

MODERNIZE YOUR AIR CONTROLS

This modern PSC Air Control Unit greatly simplifies installations and maintenance and provides maximum protection to air tools and equipment. REGULATOR adjusts to ¼ lb. settings—automatically responds to load changes—and automatically bleeds off. Throw-away type FILTER removes oil, water, and solids down to 30 microns. LUBRICATOR automatically maintains desired oil-to-air ratios. Available from stock in ¼" through ¾" NPT. Protect your air equipment the modern way. Write for Bulletin 80.

"WHERE Good Connections COUNT"
PSC PERFECTING SERVICE COMPANY
332 Atando Ave., Charlotte, N.C.
Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland
Los Angeles New York—Providence—Montreal—Toronto

For more details circle NED-159 D1 on enclosed inquiry slip

Easy portable finishing

Aro grinders help you get best results from backup wheels, coated abrasives, or other attachments. Wide choice of tools for easy finishing . . . verticals, horizontals, right-angles . . . grinders, sanders, wire brushes, cut-offs . . . tiny high-speed turbines or heavy-duty 8" wheel jobs . . . plus wheel guards, collets, arbors, other standard accessories. All tools have *extra power* to maintain rated speed under load. Job-test an Aro Grinder in your shop. Ask your Aro distributor.

ARO® AIR TOOLS
AIR HOISTS • AUTOMATION TOOLS • ULTRASONIC CONTROLS
THE ARO EQUIPMENT CORPORATION, Bryan, Ohio
Aro of California, 3141 S. Grand Avenue, Los Angeles 7, California; Aro Equipment of Canada Ltd., Rexdale (Toronto) Ontario; Offices in all Principal Cities

For more details circle NED-153 D1 on enclosed inquiry slip

Fast portable finishing

Pressure of plate glass against Nu-Matic inflated wheel illustrates large "working surface" of abrasive backed by resilient drum.

Put a cushion of air behind your abrasive and you have the fastest, most versatile tool ever developed for portable finishing operations!

Only Nu-Matic inflated wheels give you the advantages that allow you to:

- put more abrasive grain on the work than any other wheel
- use flat or crowned abrasive bands . . . for rough or final finishing . . . on any material . . . and on any shaped surface!

TRY THEM FREE! Write for product literature and special free trial offer.

NU-MATIC GRINDERS, INC.
875 East 140th Street • UL. 1-7171 • Cleveland 10, Ohio

For more details circle NED-157 D1 on enclosed inquiry slip

Easy portable finishing

Guard removed for photo

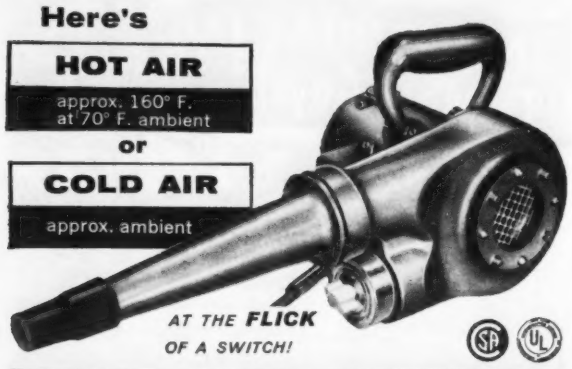
Unique Behr-Manning construction lets KONTOOR abrasive bands run under lower air pressure; chatter is reduced; crowned wheel and band ideal for curves, internal surfaces, narrow areas; no edge-cutting problem; require less storage space. Ask for a demonstration. Write Dept. NED-4, BEHR-MANNING Co., Troy, N. Y., a division of Norton Company.

BEAR Abrasives

For more details circle NED-160 D1 on enclosed inquiry slip

Here's

HOT AIR
approx. 160° F. at 70° F. ambient
or
COLD AIR
approx. ambient



AT THE FLICK OF A SWITCH!

CLEMENTS Cadillac® MODEL L7 — QUIK®-HEAT HOT OR COLD AIR BLOWER

Portable, practical for drying insulation in motors, cables, electronic equipment, delicate switchboards, terminal boards, newly dyed textile samples . . . you name it! Ideal for drying out rubber boots . . . increases worker morale. With heating element off, you enjoy the extra advantage of a regular blower for cleaning with approximately room temperature air.

DEPENDABLE, ECONOMICAL

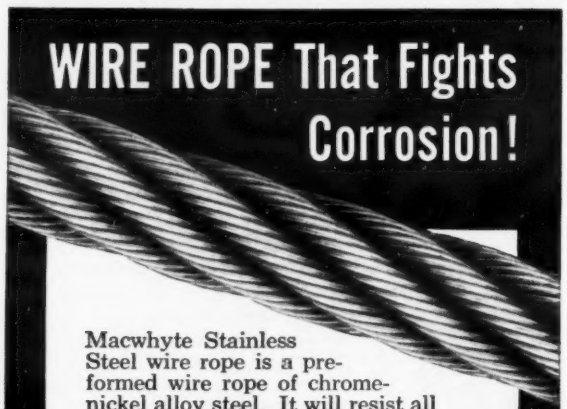
Use it wherever warm dry air is required.

ASK FOR BULLETIN

SINCE 1910 — Industrial Products Division
CLEMENTS MFG. CO.
6627 South Narragansett Ave., Chicago 38, Illinois 1

For more details circle NED-163 D1 on enclosed inquiry slip

WIRE ROPE That Fights Corrosion!



Macwhyte Stainless Steel wire rope is a preformed wire rope of chrome-nickel alloy steel. It will resist all manner of atmospheric corrosion, alkaline conditions, acids of an oxidizing nature (such as nitric), neutral brines, food substances, marine atmospheres, and temperatures harmful to ordinary carbon steel ropes.

For more information ask for circular 4930. Macwhyte Wire Rope Company, Kenosha, Wisconsin, U.S.A.

204

MACWHYTE Wire Rope COMPANY

For more details circle NED-164 D1 on enclosed inquiry slip

Self-Cleaning LA-CO Flux STRETCHES Silver Solder

. . . makes it go FARTHER FASTER

for all Silver Solders in 1125°-100° F. range

It's a fact! La-Co Silver Solder Flux incorporates a powerful self-cleaning action that can actually stop waste of expensive silver solder. It dissolves all refractory and non-refractory oxides—clears the way so solder can penetrate into every tiny crevice. Every drop of solder is put to work; you use just as much as necessary to get a perfect joint . . . and no more. Yet with all this built-in muscle La-Co Silver Solder Flux is completely acid-free . . . completely safe to work with . . . can't stain, pit or corrode metals. Packed in tins for added safety. Won't harden or crystallize.

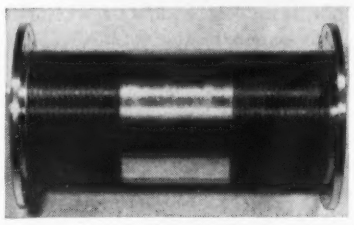
Flux problems? Let us help; no obligation!

Look for La-Co at your supply house . . . or write on your letterhead for samples.

LA-CO BRAND
THE LAKE CHEMICAL CO.
3053 W. Carroll Ave. • Chicago 12, Ill.
See us at Booth 625, A. W. S. Welding Show

For more details circle NED-165 D1 on enclosed inquiry slip

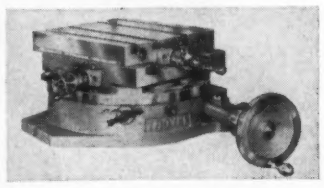
WELDED DIAPHRAGM BELLOWS of refractory metal for high heat



Particularly suited for services involving extremely high temperatures such as those in nuclear, combustion, and thermionic applications, welded diaphragm bellows are made of refractory metals. Typical uses of these custom made units are in control systems, valves, pressure regulators, and seals. • **Metal Bellows Corp.**, 3041 Mica Lane, Wellesley, Mass.

For more details circle NED-166 D1 on enclosed inquiry slip

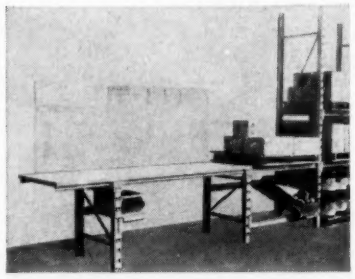
CROSS SLIDE & ROTARY TABLE has 12 x 12-in. working surface



Precision X, Y, and rotary positioning are afforded by the Model DMT-15 cross slide and rotary table. It has hardened and ground Acme feed screws mounted on tapered roller bearings and running in adjustable bronze nuts. Table has a 12 x 12-in. working surface and is accurate to 0.001 in. for the full 10 in. of cross slide travel. Quick-set cross slide dials graduated to 0.001 in., rotary table dial graduated in 1-min increments, ball bearings on table worm shaft, and quick work disengagement are among features. • **Troyke Mfg. Co.**, 11294 Orchard St., Cincinnati 41, Ohio.

For more details circle NED-167 D1 on enclosed inquiry slip

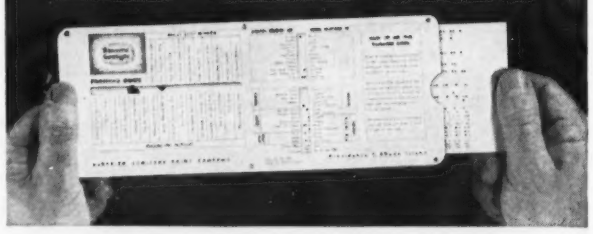
HEAVY DUTY WORK STATION several sizes have steel tops



Shipped knocked down but easily assembled without bolts, nuts, or tools, this heavy duty work station or Sammons Boltless Bench can be used as a single unit or grouped in a straight line or in other arrangements. It consists of two sets of legs, a pair of top support bars, and a bench top. Shelves or fractional shelves are available. Bench is used for assembly, inspection, packaging, service and repair, storage, and as a low scaffold. Legs are braced top, bottom, and diagonally and are 34 in. high. Widths are 24, 30, and 36 in. Support bars are 5, 6, 8, and 10 ft long. Various tops are made of pressed steel. Casters and accessories are optional. • **Sammons & Sons**, 2911 Norton Ave., Lynwood, Calif.

For more details circle NED-168 D1 on enclosed inquiry slip

FREE "SLIDE GUIDE"



. . . new aid to paint buyers!

This new and unique quick reference guide to Barreled Sunlight Engineered Exterior and Interior Paints is sent *free on request*. Handy "slide rule" indicator pinpoints the answers to scores of questions on available finishes, colors, thinners and primers . . . also provides valuable data on recommended surface applications, special resistance features, drying time and square-foot coverage per gallon on over 40 different finishes. Measures only 10" x 4" to fit pocket . . . has space for owner's name. Write Barreled Sunlight Paint Company, 130-D Georgia Avenue, Providence 5, Rhode Island.

Barreled Sunlight ENGINEERED Paints
FOR A BETTER LOOKING, LONGER LASTING PAINT JOB AT LOWER COST

For more details circle NED-169 D1 on enclosed inquiry slip

Biggest News in Protective Coatings Since 1942...

AMERCOAT No. 99

Amercoat No. 99 offers the time tested protection of vinyl coatings plus virtually foolproof application with cost reductions of up to 42%!*

For application with either airless spray or conventional spray equipment, No. 99 is a companion coating to Amercoat No. 33, the *first* practical vinyl maintenance coating. Introduced in 1942, No. 33 is...after 18 years...still protecting more than 200 million square feet of steel structures in the severest corrosive environments. And now, through exclusive Amercoat technological developments, you can have the proven protection of No. 33 PLUS the cost-cutting advantages of No. 99.

- Highest solids content of non-mastic vinyls
- Applied by airless spray, one cross sprayed coat easily produces a dry film thickness of 6 mils
- Applied with conventional spray equipment, dry film thickness of 5 mils is obtained with just two coats
- Labor savings of more than 50% have been reported, with material costs cut 35%
- Can be applied directly over Dimetcote, giving a two coat system unequalled by any comparable system
- Recommended for use on all types of structural steel, tank exteriors and ships' hulls

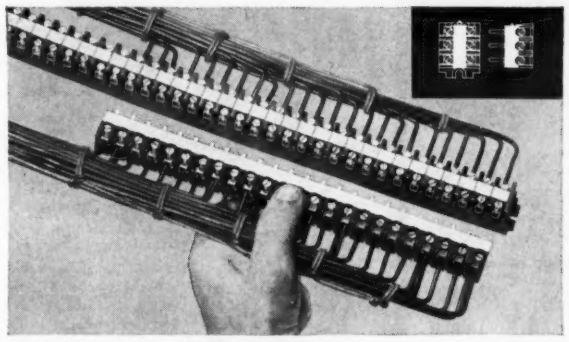
You may obtain complete technical data including a cost analysis showing savings you can realize with this coating by writing to Amercoat Corporation, 4809 Firestone Boulevard, South Gate, California.

*Documented user report furnished on request

Amercoat® CORPORATION 1289
Dept. ZP 4809 Firestone Boulevard South Gate, California

921 Pitner Ave. Evanston, Ill. — 360 Carnegie Ave. Kenilworth, N.J. — 111 Colgate Buffalo, N.Y. — 2404 Dennis St. Jacksonville, Fla. — 6530 Supply Row Houston, Tex.

For more details circle NED-170 D1 on enclosed inquiry slip



If It's Quick Handling of Circuit Groups You Want...

Buchanan has it . . . Circuit groups are wired to Buchanan Fanning Strips made especially for Buchanan sectional MD pres-SURE-blocks. You connect and disconnect from 2 to 24 circuits without handling individual wires and the possibility of wiring errors. There's no end to the versatility of MD blocks. Just 2 different snap-fit parts build any length block. Common wires—equal to 1 #22 thru 1 #8—can be grouped under a single tubular contact. That saves space, minimizes jumpering, eliminates lugging. Write now for Bulletin J-4.

U. S. Pat. No. 2,922,139

Tubular contacts listed by UL. Blocks listed for 600 v. by CSA.

BUCHANAN
BUCHANAN ELECTRICAL PRODUCTS CORPORATION
HILLSIDE, NEW JERSEY
In Canada: ESNA CANADA LIMITED, Toronto 16

For more details circle NED-171 D1 on enclosed inquiry slip

RUSH IS NO PROBLEM

ORDER SPRAY NOZZLES FROM SPRAYING SYSTEMS

• An important part of our service to customers is our "immediate" delivery department. Whatever brand of nozzle you may be using, you can replace with Spraying Systems . . . and obtain equal or better spray characteristics and improve your operation. We maintain a complete stock of all standard types and capacities . . . average inventory over 12,000 nozzle TYPES ...for shipment of rush orders on same day received.

WRITE FOR CATALOG 24 . . . forty-eight pages of complete data on thousands of nozzle types and capacities.

SPRAYING SYSTEMS CO.
3211 RANDOLPH STREET • BELLWOOD, ILLINOIS

ADVANCED SPRAY NOZZLE DESIGN FOR NEW DIMENSIONS IN CONTROL AND PERFORMANCE

For more details circle NED-172 D1 on enclosed inquiry slip

NEW AIR TOOL SUSPENSION HOSE REELS

- . . . combine tool suspension and air supply
- . . . simplify installation
- . . . keep tools always within reach
- . . . save time on high speed production assemblies

These new air tool suspension hose reels save duplication of equipment and maintenance. Spring tension of the reel counterbalances weight of pneumatic drills, screwdrivers, and other air tools. Adjust tension by adding or removing coils of hose. Powerful spring motor takes up tool automatically.

Schrader Number	Hose I.D.	Hose Length	Supports Air Tool
3481	¼"	15 feet	to 5 lbs.
3481A	⅜"	10 feet	to 5 lbs.
3485	¼"	15 feet	5 to 10 lbs.
3485A	⅜"	10 feet	5 to 10 lbs.

Complete details about these hose reels, and Schrader's hundreds of other air products, are available in informative literature. Direct all your questions about air control to Schrader.

Schrader®

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Inc.
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

For more details circle NED-173 D1 on enclosed inquiry slip

SUPEREAM

REAMERS IN DECIMAL SIZES

470 REAMERS ARE CARRIED IN STOCK VARIATIONS OF .001

▼ Sizes from .032, .033, .034, .035, .036, etc., all the way up to .501. Any size required larger than .501 . . . blanks can be ground to your exacting specifications, delivered in 3 or 4 days. By purchasing SUPEREAM Reamers in steps of .001 you SAVE time, labor and money in the cost of extra machining and lapping.

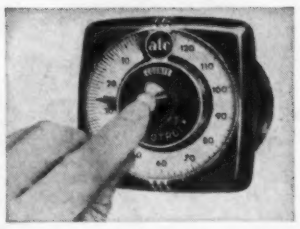
▼ SUPEREAM Reamers all have ground and polished flutes and are held within .0002 tolerance. Reamers are also furnished in Right-hand spiral, Right-hand cut, as well as Left-hand spiral, Right-hand cut. These are delivered in 3 to 4 days.

Write for descriptive literature and prices

Twentieth Century Mfg. Co.
Box 429-NED Libertyville, Ill.
Phone Libertyville 2-4200

For more details circle NED-174 D1 on enclosed inquiry slip

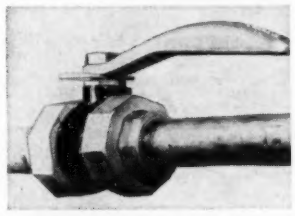
IMPULSE COUNTER
operates at 500 counts per minute



Miniaturized Series 311 pushbutton impulse counter with automatic reset operates at a rate up to 500 counts per minute. Applications include package and piece counting, fluid meter totalizing, rubber and plastic mold bumping, printing press piece counting, batch totalizing, automatic indexing, and stamping machine operations. Built-in start button is integral with count setting knob. Units can have either one or two single-pole double-throw 10-amp switches and are offered in impulse counting ranges of 1-120, 2-240, 4-480, and 8-960 counts. Price is about $45. ●**Automatic Timing & Controls, Inc.**, King of Prussia, Pa.

For more details circle NED-176 D1 on enclosed inquiry slip

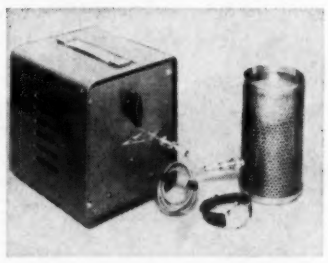
BALL VALVE
in ¼ through 2-in. sizes



Improved sealing characteristics, compact one-piece forging, and built-in union ends are features of this line of Petro ball valves. They will control flow of liquid or gas in petroleum, chemical, processing, and industrial piping. The union ends are either screwed or welded to the pipe ends, and the valve is easily assembled to the union nuts. With Buna-N or neoprene seats, rating is 300 psi. Teflon seats will handle 600 psi in the 1 and 2-in. sizes, and 1000 psi in ¼ to ¾-in. sizes. Stainless steel, carbon steel, or brass types are made in eight sizes. ● **Clayton Mark & Co.**, Forged Steel Products Div., 1900 Dempster St., Evanston, Ill.

For more details circle NED-177 D1 on enclosed inquiry slip

ULTRASONIC CLEANER
small size for miniature parts



Microscopic cleaning of miniature electronic and mechanical components, instrument movements, lenses, and jeweled bearings is performed by the Model US-100 bench-size ultrasonic cleaner. It rapidly removes solder flux, grinding and polishing compounds, oils, and other contaminants from parts up to 1½ in. square. Cleaner consists of a generator cabinet (which may be placed out of the working area) and a cleaning section containing a magnetostrictive transducer and tank. ● **Union Ultra-Sonics Corp.**, Quincy, Mass.

For more details circle NED-178 D1 on enclosed inquiry slip

SEALMASTER "L" SERIES

A HIGH QUALITY LINE OF MALLEABLE HOUSED BEARING UNITS AND BEARINGS AT A COST THAT IS WARRANTED ON YOUR MACHINE!

- SELF-ALIGNING
- ONE-PIECE MALLEABLE HOUSING
- PERMANENTLY SEALED
- EASY RACE TO SHAFT LOCK

Available in pillow blocks and two or three bolt flange units for flush or recessed mountings. All units in the "L" Series available with the new SEALMASTER contact type seal.

LP PILLOW BLOCK — LFT FLANGE UNIT — LF FLANGE UNIT

WRITE FOR BULLETIN 359

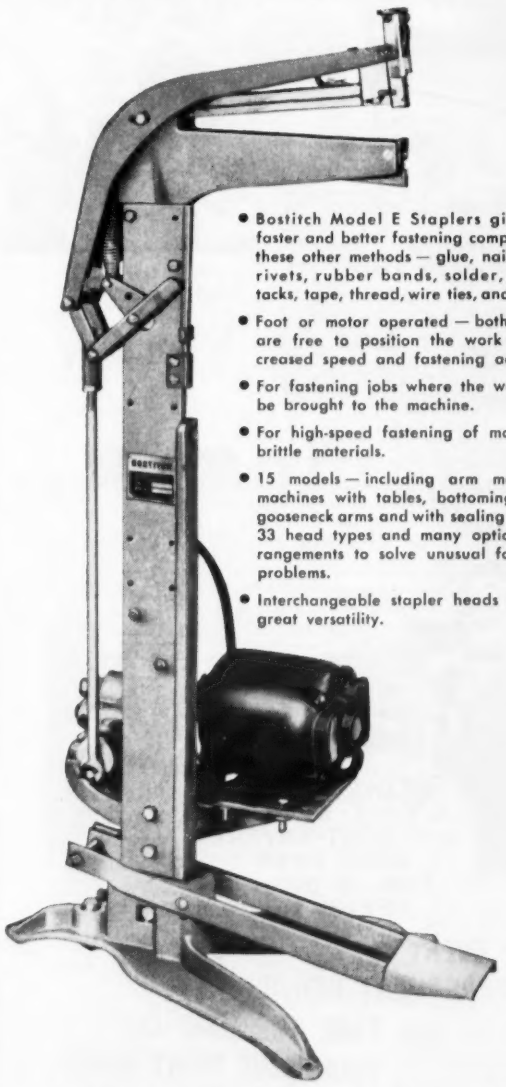
SEALMASTER BEARINGS
A DIVISION OF
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE
AURORA, ILLINOIS
Plants Located in: Los Angeles, Calif. Clarksdale, Miss • Belleville, Ontario

SEALMASTER® BALL BEARING UNITS

For more details circle NED-179 D1 on enclosed inquiry slip

Slashes fastening costs and time

Bostitch Model E Stapler—foot or electrically operated . . . accurately places up to 186 staples per minute.



- Bostitch Model E Staplers give you faster and better fastening compared to these other methods — glue, nails, pins, rivets, rubber bands, solder, string, tacks, tape, thread, wire ties, and others.
- Foot or motor operated — both hands are free to position the work for increased speed and fastening accuracy.
- For fastening jobs where the work can be brought to the machine.
- For high-speed fastening of most non-brittle materials.
- 15 models — including arm machines, machines with tables, bottoming posts, gooseneck arms and with sealing blades. 33 head types and many optional arrangements to solve unusual fastening problems.
- Interchangeable stapler heads provide great versatility.

NATIONWIDE APPLICATION AND SERVICE HELP 350 Bostitch Economy Men work out of 123 U.S. and Canadian cities. Application information, parts and service are always nearby. An office near you is listed under "Bostitch" in your telephone directory. Call or circle our number on the Reader Service Card to receive free brochure.

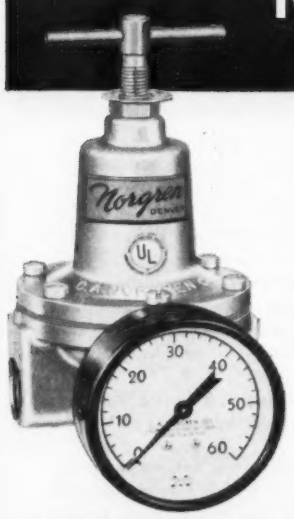
Fasten it better and faster with

BOSTITCH
STAPLERS AND STAPLES
684 Briggs Drive, East Greenwich, Rhode Island

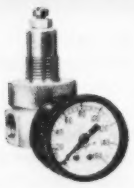
For more details circle NED-180 D1 on enclosed inquiry slip

Norgren Pressure Regulators

for air, water, oil and non-corrosive gases



Over 400 Standard Models



TYPE 20AR—For air, non-corrosive gases and liquids. Pipe sizes: ⅛", ¼"; max. line pressure: 400 psig; max. delivery pressure: 100 psig; operating temp.: —40° to 200° F.

TYPE 20AP—Low-cost regulator for water, oil and other non-corrosive liquids. Pipe sizes: ⅛", ¼", ⅜", ½", ¾", 1"; line pressure: to 400 psig; regulated pressure: to 250 psig; operating temp.: —40° to 200° F.

TYPE 2E—For primary stage pressure regulation of liquified petroleum gases. Pipe sizes: ½"; ¾", 1"; line pressure: to 250 psig; regulated pressure: to 50 psig; operating temp.: —40° to 200° F.

TYPE 20AH-X—For air. Pilot-operated, remote control type. Pipe sizes: ½", ¾", 1", 2"; line pressure: to 400 psig; operating temp.: —40° to 200° F.

TYPE 20AG—For air and non-corrosive gases. Pipe sizes: ¼", ⅜", ½", ¾", 1"; max. line pressure: 400 psig; standard operating temp.: —40° to 200° F. (special: —70° to 250° F.); relieving or non-relieving; standard secondary pressure: 0-125 psig (optional: 0-50 psig or 0-250 psig.)

ALSO . . . there are Norgren Pressure Regulators for cylinder gases, saturated steam and hot water.

FREE CATALOG. *For complete information call your nearby Norgren Representative listed in your telephone directory or write factory for catalog showing complete Norgren Regulator line.*

C. A. NORGREN CO.

3405 SOUTH ELATI STREET—ENGLEWOOD, COLORADO

For more details circle NED-175 D1 on enclosed inquiry slip

David Round

HOISTING EFFICIENCY

...especially in work areas cramped for headroom

MODEL 55
CABLE TYPE
ELECTRIC
Hoist and Trolley
Write for Bulletin 119-EH

Cable-Aire
PNEUMATIC HOIST
Meets requirements for operation in hazardous atmospheres
Write for Bulletin 300-CA

Order from your Distributor
Chain Hoists • Electric and Air Hoists & Winches
Cranes • Sheaves and Chain

DAVID ROUND & SON, INC., CLEVELAND 39, OHIO

For more details circle NED-181 D1 on enclosed inquiry slip

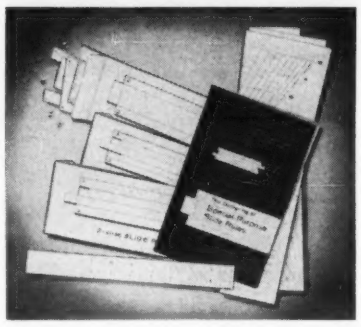
EQUIP EVERY DEPARTMENT INDIVIDUALLY and TAKE THE LOAD OFF YOUR BLUE PRINT ROOM

DRY PAPER-VAPOR DEVELOPER
LOWEST PRICE WHITEPRINTER—Prices Start at 129.50
ROTOLITE SALES CORP., STIRLING, N. J.
Write for folder, using coupon below

ROTOLITE SALES CORP., Stirling, N. J. M1-7-1040
Please Send Us Folder on Rotolite.
Name .....
Company .....
Address .....
City ..... Zone ..... State .....
C-4

For more details circle NED-182 D1 on enclosed inquiry slip

SLIDE RULE UNIT
for making special purpose types



Illustrated booklet of instructions furnished with this special purpose slide rule kit enables the user to design and construct his own slide rule for doing recurring calculations. Its 25 pages explain the theory of slide rule design and give step-by-step procedures on how to express almost any type of problem or equation. Kit contains parts for making three basic slide rule blanks, plastic scale plotting ruler, and universal logarithmic chart. Blanks have one, two, or three slides. Assembled rules are 3 x 11 in. Since scales are calibrated with the actual values they are to represent, it is not necessary to figure out decimal point placement. Price of kit is $8.50. Additional blanks are $2.50 each. • **Dyna-Slide Co.**, 600 S. Michigan Ave., Chicago 5, Ill.

For more details circle NED-183 D1 on enclosed inquiry slip

CONTACT CEMENT
bonds plastic, metal, wood, glass

Particularly suited for bonding plastic laminates to wood, metal, plastic, or glass surfaces, Miracle CA-25 contact cement holds without use of heat, clamps, or presses. This synthetic rubber base solvent type adhesive is easy to apply. The bond is flexible and will withstand constant or variable stresses, impact, and vibration. Coverage is approximately 150 sq ft per gallon. It withstands water, alkalies, mild acids, rot, and fungus. • **Miracle Adhesives Corp.**, Bellmore, L. I., N. Y.

For more details circle NED-184 D1 on enclosed inquiry slip

ALUMINUM FOIL MARKERS
offered on comb-shaped dispenser

Serially-numbered pressure-sensitive anodized aluminum foil marker strips are offered in this Tabber comb-shaped dispenser form for quick removal and instant

application to any surface. Any combination of letters and/or digits can be furnished in consecutive order. Marker tabs are precut for easy detachment. • **Anodyne, Inc.**, North Shore Nameplate Div., 1270 N. W. 165th St., North Miami Beach 69, Fla.

For more details circle NED-185 D1 on enclosed inquiry slip

Now find cracks, leaks defects--quickly, easily

ZYGLO®
BLACK LIGHT Portable Inspection Kit

EASY TO USE
• in the shop
• in the field
FOOLPROOF FLUORESCENT PENETRANT INSPECTION

FIRE SAFE
New, improved high flash-point materials. Packed in push-button spray cans.

IDEAL FOR
• Finding oil leaks
• Maintenance Inspection
• Production line testing of small lots of cast or machined parts

Genuine ZYGLO KIT complete with 100 W. BLACK LIGHT $125.00 F.O.B. CHICAGO

Order Today! Attach Coupon to Letterhead or P.O.
MAGNAFLUX CORPORATION
7349 West Ainslie Avenue, Chicago 31, Illinois
Please send _____ ZYGLO Kit(s) @ $125.00 each.
☐ Check enclosed, amount $_____ ☐ Send on our P.O. number_____.
☐ Send only free illustrated bulletin now—includes low prices of ZYGLO replacement materials: pressure cans and bulk .

For more details circle NED-186 D1 on enclosed inquiry slip

MODEL 86

FOR MANUAL START AND AUTOMATIC STOP FOR ANY TIMED PROCESS OR OPERATION

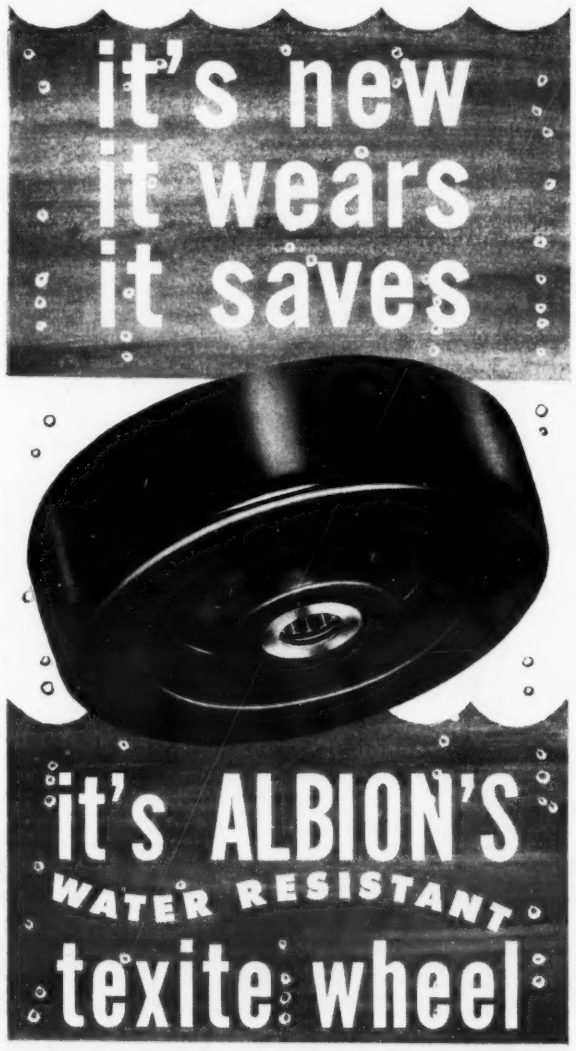
★ Compact — requires only 7½ sq. in. for mounting
★ May be mounted in any position
★ Accurate — maintains ±15% of mean setting
★ Timing Range — 0.2 sec. to 60 sec.
★ Operates on 90% captive air principle

A high quality — low cost timer whose mechanical life has been tested to over 10 million operations. (Switch 1 million).

Write for Bulletin No. 1620 for complete specifications. Address Dept. NED-461

BLISS
HAGEN MANUFACTURING DIVISION / BARABOO, WISCONSIN
Of The Gamewell Company
AN E. W. BLISS COMPANY SUBSIDIARY

For more details circle NED-187 D1 on enclosed inquiry slip



Specially molded for applications requiring unusual water or chemical resistance...plus the usual quiet, long-wearing, easy rolling-floor protective characteristics of Albion Texite Wheels.

These tough, high capacity wheels are immediately available from stock in *any* practical size from 3¼" to 16" diameters, tread widths from 1½" to 4" and capacities up to 8000 pounds. Plain, roller or sealed bearings. Price? Exactly the same as comparable models in Albion's *regular* Texite wheel line!

Specify "Low Water Absorption Texite Wheels" on your next caster or wheel order . . . and save.

FREE CATALOG—Albion's big, new 44-page catalog of Industrial Casters and Wheels is ready for your use and convenience. Write for your personal copy—Today!

ALBION INDUSTRIES INC.
ALBION, MICHIGAN

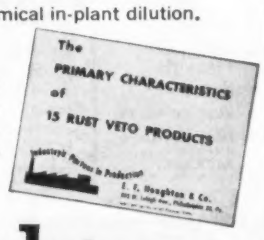
For more details circle NED-188 D1 on enclosed inquiry slip

RUST PREVENTIVES

● **What type do you need?**

Fifteen of Houghton's wide variety of Rust Preventive Compounds will handle almost any industrial requirement. All are sold under the world-famous COSMOLINE and RUST VETO labels: solvent containing—dry film, non-solvents, finger-print neutralizers, water displacing and concentrates for economical in-plant dilution.

Write for folder 2-361A.
E. F. Houghton & Co.
303 W. Lehigh Ave.
Philadelphia 33, Pa.



Houghton
INDUSTRY'S PARTNER IN PRODUCTION

For more details circle NED-189 D1 on enclosed inquiry slip

MACHINE TOOL CUTTING FLUIDS

● **Check these 3 types.**

Chemi-cool HOCUT 237 represents a new concept in non-petroleum coolants. It combines the important features of many different coolants into one economical package: cools, lubricates, prevents rust, stays mint-fresh for life. Others: HOCUT 3210 for heavy duty; HOUGHTO-GRIND 50 for grinding.

Write for Data Sheets.
E. F. Houghton & Co.
303 W. Lehigh Ave.
Philadelphia 33, Pa.

Houghton
INDUSTRY'S PARTNER IN PRODUCTION

For more details circle NED-190 D1 on enclosed inquiry slip

METAL CLEANERS

● **Four new ones offer big advantages.**

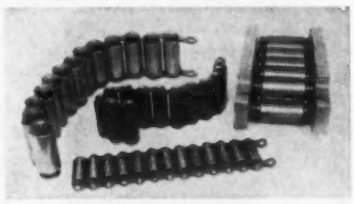
New Houghton CERFA-KLEENS give you EXTRA benefits such as built-in rust prevention, water softening, non-foaming and free rinsing characteristics. One of these four products will handle almost any metal cleaning job—soak tank or power washer, hot or cold. Simplifies purchasing as well.

Write for new
CERFA-KLEEN Brochure.
E. F. Houghton & Co.
303 W. Lehigh Ave.
Philadelphia 33, Pa.

Houghton
INDUSTRY'S PARTNER IN PRODUCTION

For more details circle NED-191 D1 on enclosed inquiry slip

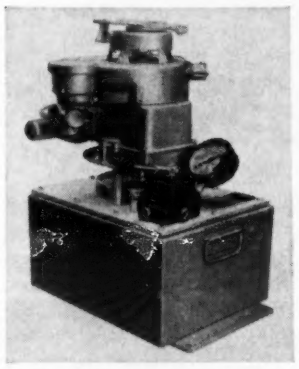
ENDLESS ROLLER TRACK
for use on machine moving dollies



Endless chain-roller track, for original or replacement use on Hilman Express machinery roller dollies or their equivalent, is instantly removable from roller frame. Chain strands are installed or removed in 10 sec by pulling a slip ring. Design makes possible degreasing of frame without immersing the complete roller. Built to carry over 1000 times their own weight, these heavy-duty roller dollies will glide over irregular and pitted floor surfaces to move loads weighing up to 150 tons. ● **Hilman Equipment Co.**, 506 Baltimore Blvd., Sea Girt, N. J.

For more details circle NED-192 D1 on enclosed inquiry slip

ENGINE DRIVEN HYDRAULIC UNIT
develops pressures to 10,000 psi



Self-contained and fully portable, Vanguard two-stage hydraulic power unit is driven by a 3-hp Briggs & Stratton gasoline engine. Model Y26-g operates at pressures to 10,000 psi, yet it will deliver 2.6 gpm at 100 psi for fast approach. A wide range of accessories and controls adapts it for many uses. The 5-gal reservoir has 4 gal of usable oil. ● **Owatonna Tool Co.**, Precision Hydraulic Div., 436 Cedar St., Owatonna, Minn.

For more details circle NED-193 D1 on enclosed inquiry slip

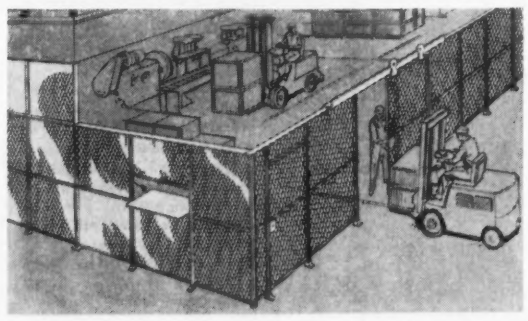
CIGARETTE PAIL
promotes safety, good housekeeping

Filled with sand and located in strategic areas around a plant, these cigarette disposal pails encourage butt disposal for safety and good housekeeping reasons. The 5-gal, 26-gage steel pail is painted with a striking red, white, and black pattern on the outside surface and labeled with the words "cigarette ends." A shallow wire cone on top screens out paper and other inflammables. Total cost of pail, including painting and rust-inhibiting lining is under 90 cents. ● **Jones & Laughlin Steel Corp.**, Container Div., 3 Gateway Center, Pittsburgh 30, Pa.

For more details circle NED-194 D1 on enclosed inquiry slip

WIRE MESH PARTITIONS
have 8-ft high door openings

Easily assembled and disassembled Wipco 8-ft high wire mesh partitions are open to light, heat, and air, and cannot obstruct automatic sprinkler operation.



Their 8-ft door openings are adequate for equipment carrying stacked bins, pallets, and other tall loads. Hinged or sliding door panels have adjustable padlock fittings or bronze cylinder locks. Service windows, dutch doors, wire mesh ceilings, and sheet steel wainscot and base are optional, as are top panels to increase over-all height in increments of 1 ft up to 12 ft. Custom enclosures can be fabricated. ● **Wire & Iron Products Inc.**, 1722 16th St., Detroit 16, Mich.

For more details circle NED-195 D1 on enclosed inquiry slip

HI-TEMP LUBRICANT

● **Effective over 1000°F.**

Hi-Temp 2409 lubricant is a completely new type that contains no silicones, diesters, soaps, or heavy metals. At 200°F., it becomes fluid and carries lubricant to all surfaces. At 500°F., the synthetic carrier evaporates and leaves a soft film of dry lubricant that easily withstands 1000°F.

Write for the new book on
Hi-Temp Lubes.
E. F. Houghton & Co.
303 W. Lehigh Ave.
Philadelphia 33, Pa.

Houghton
INDUSTRY'S PARTNER IN PRODUCTION

For more details circle NED-196 D1 on enclosed inquiry slip

RUST VETO SPRAY

● **The modern way to prevent rust.**

Handy, push-button spray protects tools, jigs, dies, machines the easy way. Provides positive rust protection without messy dipping or brushing. Fast, easy and economical to use on highly finished parts stored or wrapped for shipment. Hundreds of uses around any industrial plant. Sold only in case lots (12 per case).

For details, write
E. F. Houghton & Co.
303 W. Lehigh Ave.
Philadelphia 33, Pa.

Houghton
INDUSTRY'S PARTNER IN PRODUCTION

For more details circle NED-197 D1 on enclosed inquiry slip

HEAT TREATING SALTS, QUENCHES

● **In a full range of types.**

Fortified oils, martempering oils and salts developed specifically for quenching—and quenching only—in a full range to give you perfect results every time: Perliton Liquid Carburizers, Self-Rectifying Liquid Heat, Neutral Salts, Additives and Concentrates . . . with Houghton On-The-Job Help to solve every heat treating problem.

Write for Brochure 2-363C.
E. F. Houghton & Co.
303 W. Lehigh Ave.
Philadelphia 33, Pa.

Houghton
INDUSTRY'S PARTNER IN PRODUCTION

For more details circle NED-198 D1 on enclosed inquiry slip

You can even read this scale around corners—up to 100 ft. away!

only Martin-Decker has this Eye-Level Remote Indicating Crane Scale!

Minimum headroom requirement gives you more stacking space • Full 360° dial makes indicator easier to read, more accurate • Exclusive sensater-type load cell eliminates surface friction • Full tare adjustment to manually zero out boxes, baskets, hooks, etc. • High safety factor—ultimate strength more than 5 times rated capacity. Dial crystal is shatter resistant optic plastic • All scales available in metric calibrations.

Write for Technical Brochure T44

The standard Martin-Decker Sensater Crane Scale has all of the precision features of the remote model.

MARTIN DECKER

Precision Pressure Instruments Testing—Weighing—Load and Force Measurement

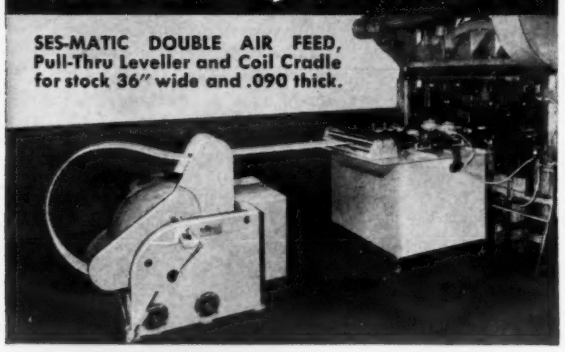
MARTIN-DECKER CORPORATION • 3431 Cherry Ave., Long Beach 7, Calif.

For more details circle NED-201 D1 on enclosed inquiry slip

You get POWER, SPEED and ACCURACY with . . .

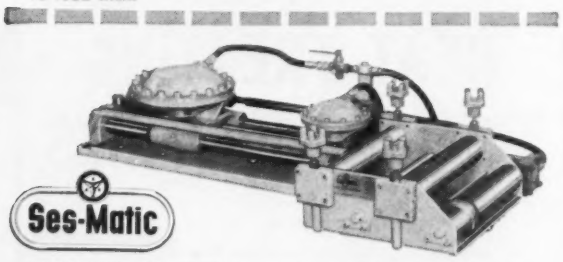
Ses-Matic PRESS EQUIPMENT

SES-MATIC DOUBLE AIR FEED, Pull-Thru Leveller and Coil Cradle for stock 36" wide and .090 thick.



Ses-Matic

SES-MATIC "JUNIOR" AIR FEED for feeding up to 4 inch wide materials and .06 thickness with a 4 inch maximum stroke advance. Up to 250 strokes per minute and accuracy to .002 inch.



Ses-Matic

SES-MATIC AIR FEED for most materials up to 30 inches wide, up to ¼ inch thick. Accurately feeds and levels the stock.

Ses-Matic

SES-MATIC DOUBLE AIR FEED with Pull-Thru Stock Leveller. Models available for materials up to 72 inches wide and thicknesses up to ¼ inch.

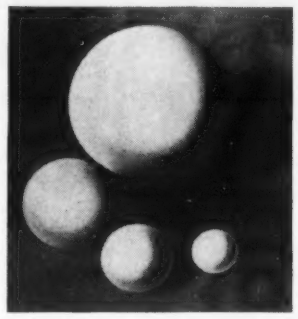
Write for complete catalog of Press Feeding Equipment.

Ses-Matic Press Equipment
DIV. OF SPECIAL ENGINEERING SERVICE, INC.
7636 Wyoming • Dearborn, Mich.

Ses-Matic

For more details circle NED-202 D1 on enclosed inquiry slip

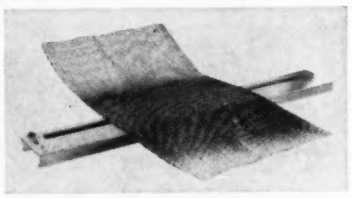
HOLLOW TEFLON BALLS
smooth, nonadhesive, nonabsorbing



Suited for flotation applications in highly corrosive fluids, hollow Teflon spheres are light in weight. A 4-in. ball weighs 6 oz and supports ¾ lb in water. They are smooth, nonadhesive, and nonabsorbing. Unaffected by all solvents and virtually all chemicals at temperatures from −350 to 500° F, they are offered in diameters from 20 to 100 mm. • **Chemplast, Inc.**, 3 Central Ave., East Newark, N. J.

For more details circle NED-203 D1 on enclosed inquiry slip

WEB INSPECTION DEVICE
checks width of moving material



Installed on inspection perches, calenders, tenters, dryers, or extruders, the Webalarm signals audibly or visually when width of fabric, paper, or plastic film web falls outside preset tolerances. Instrument is not affected by sideslip or speed variation of the moving material. Snagproof wands sense each edge of the web with feathertouch contact. Price is under $400. • **Matrix Controls Co.**, Box 22, Somerville, N. J.

For more details circle NED-204 D1 on enclosed inquiry slip

SOLENOID VALVE
for high pressure fluid control

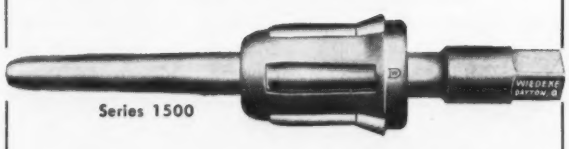
Using from 1 to 3 w of power, the VO46A straight-through flow solenoid valve is usable up to 200 psi in a −65 to 350° F range. The compact control for liquid and gas weighs 5 oz, is self-supporting, and employs a self-aligning synthetic rubber needle valve for positive close-off at any pressure. Stainless steel valve is made in 6 to 64 v dc, 6, 12, 24, and 110-220 v 60-cycle ac, and 110-v 400-cycle ac models for operation in any position at a maximum rate of 100 cycles per minute at 100 psi. Water and fungusproof models are available. Inlet connection is ½-in. NPT and outlet is ⅛-in. NPT. Length is 2⅝ in. and diameter is 1⅜ in. Standard lead lengths up to 24 in. are offered. • **General Magnetics, Inc.**, 2641 S. Louisiana Ave., Minneapolis 26, Minn.

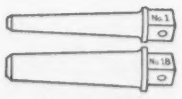
For more details circle NED-205 D1 on enclosed inquiry slip

You'll Get More Efficiency with

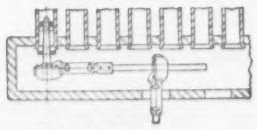
IDEAL WIEDEKE • DAYTON TUBE EXPANDERS

Series 1500 Tube Expanders





Short Mandrels



Right Angle Gear Drive

For installation and maintenance of tubes in drums, headers and similar water tube boilers.

A combination of short mandrels and right angle gear drive speeds up operation and assures efficiency with far less operator-fatigue. The new and smaller reinforced gear drive enters most hand-holes.

See Your Dealer or Write Us Today!

The Gustav WIEDEKE Company
DAYTON 1, OHIO

For more details circle NED-206 D1 on enclosed inquiry slip

LOAD and UNLOAD
BOXES • BAGS • BALES • CARTONS
IN 1/2 THE TIME

with this expanding CONVEYOR

CSI-Farquhar's EXPAND-O-VEYOR

- BUILT-IN STRETCH
- HIGHLY VERSATILE
- HIGH SPEED
- EASY TO MOVE
- HANDLE ALL KINDS OF PACKAGES

Looking for a new way to speed loading and unloading? Here is a complete, *portable* conveyor system that helps you load trucks in ½ the time . . . no more slow and costly setup...just move in the EXPAND-O-VEYOR and go to work . . . links right into existing facilities. Investigate this higher efficiency now!

SINCE 1856

CSI Farquhar CONVEYORS

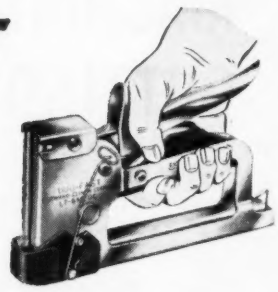
CONVEYOR SYSTEMS, INC.
A-B FARQUHAR DIVISION
Phone: JUniper 8-0200
6465 Main Street Morton Grove, Illinois (Chicago Suburb)
See Your Yellow Pages For Your CSI-Farquhar Dealer or Write Direct

ASK FOR BROCHURE
Full of details on sizes, power, capacity, construction and applications. SEND TODAY!

For more details circle NED-207 D1 on enclosed inquiry slip

• DUO-FAST • DUO-FAST • DUO-FAST • DUO-FAST • DUO-FAST • DUO-FAST •

DUO-FAST OUTWARD CLINCH STAPLER



Clinches staples without an anvil

Drives ½" or 9/16" staples . . . not straight down but clinches them out and up. Staple does not penetrate corrugated. Adjustable for amount of flair of staple leg. A problem solver for fastening tags and labels to filled corrugated boxes. Also widely used for stapling insulation around air ducts.

Send today for information on DUO-FAST Outward Clinch Stapler. Ask for folder FT-8.

FASTENER CORPORATION 3708-06 River Road, Franklin Park, Ill.

DUO-FAST Staplers Tackers Staples

For more details circle NED-208 D1 on enclosed inquiry slip

UP... WITH SAFWAY 1-MAN MOTO-LIFT

self-elevating work tower comes in battery-operated and 110-volt plug-in models

ROLLS to the job on swiveling casters.
RISES to 17 ft. in 40 sec. (foot-button control).
TELESCOPES to clear 30" x 6'8" doors.
ONE-MAN operation.
SAFE at all levels.

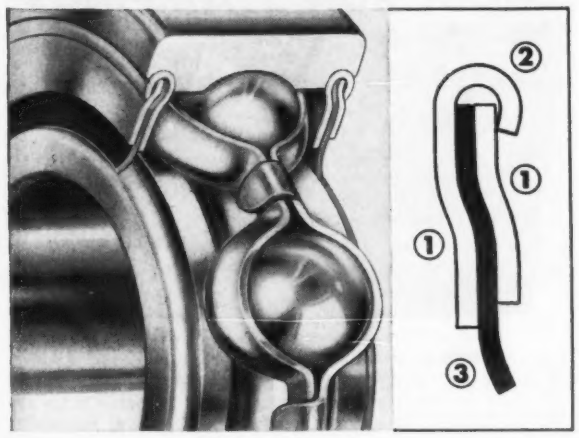
WRITE FOR BULLETIN 74-N

SAFWAY

SAFWAY STEEL PRODUCTS, INC., 6228 W. STATE ST., MILWAUKEE 13, WIS.

For more details circle NED-209 D1 on enclosed inquiry slip

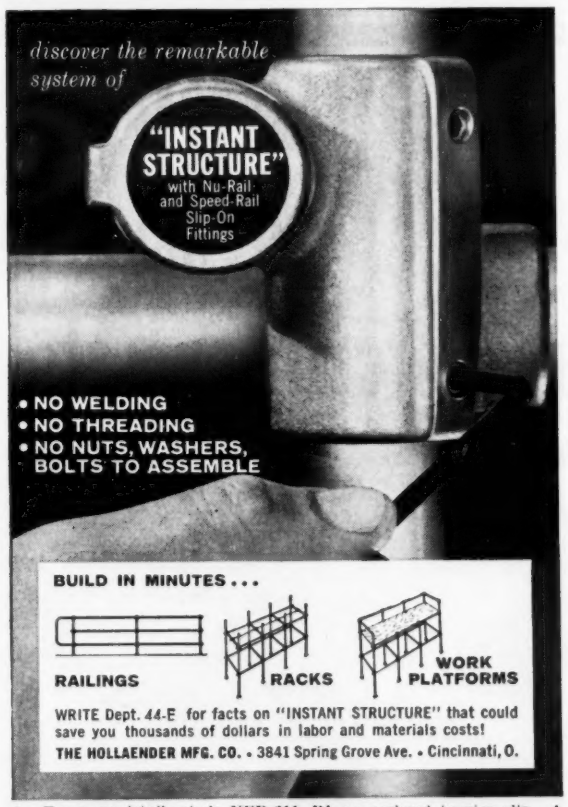
FAFNIR "Seal in a Steel Sandwich" Stays Put . . . Seals Better!



The contact-type PLYA-SEALS in this Fafnir precision ball bearing are gripped between two steel supports (1) securely rolled into a groove in the bearing outer ring (2). This Fafnir "seal in a steel sandwich" stays put, resists push-in, provides positive protection (3) against contaminants and loss of lubricant. Bearings are permanently prelubricated and seals are nonremovable. Maintenance is reduced to a minimum. Contact your Authorized Fafnir Distributor for details. Or write The Fafnir Bearing Company, New Britain, Conn.

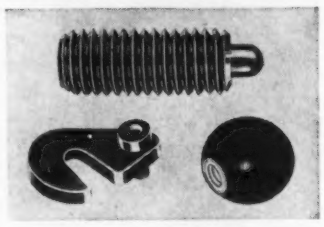
FAFNIR BALL BEARINGS

For more details circle NED-210 D1 on enclosed inquiry slip



For more details circle NED-211 D1 on enclosed inquiry slip

WASHERS, KNOBS & PUNCHES each offered in range of sizes for machine, jig, fixture, and other uses

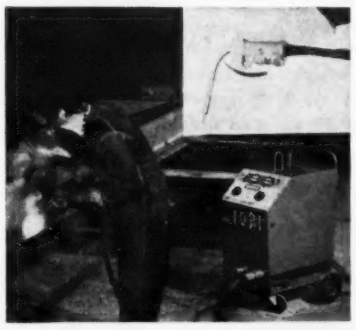


Used as a latch in construction of jigs, fixtures, and special machinery, a line of swing C-washers (lower left) is made of carburized, hardened, ground, and rustproofed low carbon steel. Sizes are offered for 3/8, 1/2, 5/8, and 3/4-in. bolts. Plastic ball knobs (lower right) with tapped brass inserts are used on machine tools, mechanical units, jigs, fixtures, and other tooling. Material resists water, oils, electricity, and most chemicals. Several different threads are offered in 1, 1 3/8, and 1 7/8-in. diameters.

Spring plungers or spring-loaded pins (top) afford positive spring tension in jigs, fixtures, dies, and other tooling. Hardened black pentrate and cadmium plated noses are supplied for maximum wear. Black and white nylon noses prevent marring of aluminum and brass. Both metal and plastic noses are offered with standard and light spring pressures, with 6-32 through 1-in.-8 and 8-32 through 5/8-11 threads, respectively. • **Northwestern Tools, Inc.**, 127 Hollier Ave., Dayton 3, Ohio.

For more details circle NED-213 D1 on enclosed inquiry slip

SEMIAUTOMATIC WELDER uses continuously fed electrode in manually guided welding gun



Semiautomatic Innershield Squirt welder employs continuous feeding of a tubular, self-shielding electrode through the 24-oz welding gun which is manually supported and guided along the joint. Design combines high deposition rates with flexibility of manual welding for both machinery and structural fabricating work. Direct-current motor generator supplies 350 to 600 amp welding power. Amperage is controlled by varying wire feed speed.

Welder is mounted on four rubber-tired casters and holds a 50-lb coil of electrode which is mounted on a wire reel and is forced fed by motor through hollow welding cable. This cable also carries current to tip of gun. Standard welding gun cable is 15 ft long, and 25 ft of 3/0 electrode cable is supplied with accessories to connect generator power supply to the welder. Additional cable increases this distance to 50 or 75 ft. • **Lincoln Electric Co.**, 22801 St. Clair Ave., Cleveland 17, Ohio.

For more details circle NED-214 D1 on enclosed inquiry slip

For more details circle NED-216 D1 on enclosed inquiry slip

For more details circle NED-217 D1 on enclosed inquiry slip

GOODYEAR

Steel-armored against punctures!

For the tough jobs use STEEL GUARD—rugged new pneumatic tire with built-in puncture-barrier. Here's why:

1. Heavy steel cables crisscrossed beneath tread make tire virtually punctureproof.
2. Thick, sturdy tread absorbs punishing blows, insures better traction.
3. Pneumatic design means smooth ride for cargo and driver—plus stand-out stability and flotation.

Ask your Goodyear dealer about STEEL GUARD—it stands up even in foundry and brickyard service! Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from **GOODYEAR**

More tons are hauled on Goodyear truck tires than on any other kind

Steel Guard—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-212 D1 on enclosed inquiry slip

GOODYEAR

Solid Hit!

Rolling up savings in the toughest shop service are rugged Goodyear Pressed-on Solid Tires. Here's why:

1. Extra-thick tread cushions loads—reduces truck and floor maintenance.
2. Tougher rubber endures chipping, cutting—for longer life on the job.
3. Less friction, smoother starts, easier rolling, help conserve power.

Check your Goodyear dealer today for more facts on cost-cutting Goodyear Solid Industrial Tires. Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from **GOODYEAR**

More tons are hauled on Goodyear truck tires than on any other kind

For more details circle NED-215 D1 on enclosed inquiry slip

GOODYEAR

4 Times the Life!

New Neothane Solid Industrial Tires by Goodyear outlast other tires up to 4 times—even when lugging 2 to 4 times the load normally carried on regular rubber tires. Here's why:

1. Neothane—Goodyear's polyurethane synthetic—wears like steel, rolls like rubber.
2. Rolls over metal chips, splinters, broken glass—with minimum cutting, gouging.
3. Won't swell or turn spongy after wading through water, grease, oil, solvents or acids.

Plus outstanding performance on heaviest loads to take rough going without damaging floors. See your Goodyear dealer for facts on new Neothane Industrial Tires or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

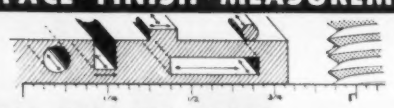
Lots of good things come from **GOODYEAR**

More tons are hauled on Goodyear truck tires than on any other kind

Neothane—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-218 D1 on enclosed inquiry slip

SURFACE FINISH MEASUREMENT



SMALL SURFACE AREAS

All of the above areas are too small to permit the use of conventional skid type surface finish pickups. On limited areas of this type, there is not enough room to trace with both the skid and stylus. The new Cleveland Precision Slide eliminates the necessity of the skid contacting the part surface. Only the diamond stylus contacts the part surface. The accurate movement of the slide furnishes the measurement reference normally provided by the skid.

Typical surfaces which can be explored by skidless techniques include the following:

Lands	— .005" or wider
Holes	— .060" I.D. or larger
Slots	— .080" x .080" or larger
Groove Bottoms	— .375" deep x 5/64 wide
Hole Bottoms	— .375" deep x 5/64 I.D.
Screw Threads	
Gear Teeth	

New approaches in pickup design and the Precision Slide make these measurements a simple matter. The equipment is comparatively inexpensive. Existing Cleveland Roughness Meters can be used for skidless measurements with the addition of the Precision Slide, Model BK-3922 F.

The Cleveland Roughness Meter meets the requirements of the ASA B46.1-1955 and all industrial and government standards.

Write for a demonstration or full details on the Cleveland Roughness Meter.

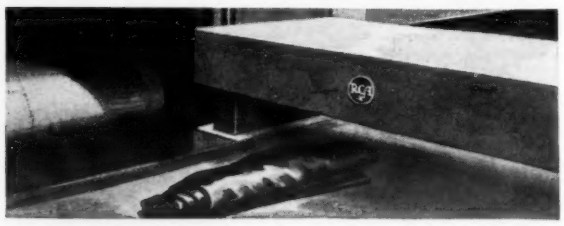
Cleveland INSTRUMENT COMPANY
A SUBSIDIARY OF THE BENDIX CORPORATION
6220 East Schaaf Road • Cleveland 31, Ohio

For more details circle NED-219 D1 on enclosed inquiry slip

Protect your product and machinery with the RCA Electronic Metal Detector

Tramp metal is a threat that no plant can afford. So, today, hundreds of plants are using this special electronic equipment to safeguard their investment in costly equipment and product. Highly sensitive, it automatically detects all kinds of metal, both magnetic and non-magnetic. Inspects powdered, bulk, sheet or packaged materials.

RCA Metal Detectors can quickly pay for themselves in your operation in longer machinery life, reduced downtime and increased profits. Get this protection at once. Write to RCA, Dept. T-329, Building 15-1, Camden, N.J.



RCA The Most Trusted Name in Electronics
RADIO CORPORATION OF AMERICA

For more details circle NED-220 D1 on enclosed inquiry slip

the penetrating force of...

COLD STEAM
CLEANS FASTER, BETTER, CHEAPER

Handle all kinds of cleaning jobs with the greatest of ease with HYDRO-AIR. This gun-type cleaner connects to standard air and hot or cold water supply. Compressed air "breaks" water into minute particles producing a dense penetrating force which blasts heavy dirt or quickly rinses metal sheets and small parts. Operates on 1 H.P. compressor and uses less than 3½ c.f. of air and 3½ gals. of water per minute. Easy to handle — weighs less than 2 lbs. Rubber sleeve protects user's hand when hot water is used.

$12.95

- ***NEW . . . Siphoning attachment for application of cleaning solvents — under pressure — on parts, machinery or any difficult surfaces for cleaning.***

HYDRO-AIR BLASTS STUBBORN DIRT!
PRESSURE WASHER HARMLESS TO FINEST FINISH!

ORDER THROUGH YOUR SUPPLIER — or write direct. (Inquiries invited from industrial cleaning compounders interested in resale.)

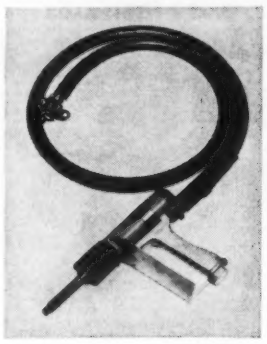
D & M PRODUCTS, INC.
26 N. RAYMOND AVE. • PASADENA, CALIFORNIA

HYDRO-AIR is widely used throughout these industries:

Aviation	Construction	Transportation	Meat Packing
Automotive	Pharmaceutical	Railroads	Baking
Food Processing	Paper	Petroleum	Foundries
Brewing	Ship Building	Mining	Jewelry
Dairy Products	Textile	Metalworking	Leather

For more details circle NED-221 D1 on enclosed inquiry slip

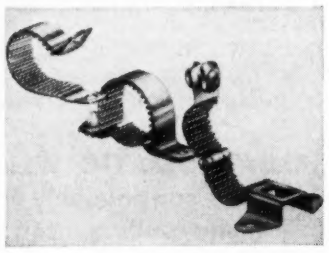
METAL REMOVAL TORCH
for ¾, ⅝, and ½-in. electrodes



Primarily intended for pad washing in foundry cleaning rooms, Model R metal removal torch is designed for any production application requiring high currents for speedy metal removal. It provides six lines of current contact through the alloy spring-action jaws. Stainless steel shield and handle assembly are designed for operator comfort. Adjusting knob allows quick placement of air blast for comfortable pad washing, fin, or defect removal. Models R-6, R-5, and R-4 take ¾, ⅝, and ½-in. electrodes, respectively. • **Arcair Co.**, Box 431, Lancaster, Ohio.

For more details circle NED-222 D1 on enclosed inquiry slip

HARNESS CLAMPS
withstand temperatures to 1500° F

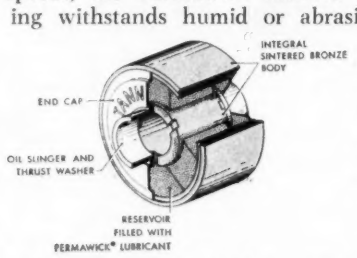


These lightweight, stainless steel, cushion clamps will withstand ambient temperatures to 1500° F. They conform to Military specs, have corrugated cushion to withstand vibration, and are available for holding tube and wire harness diameters from ¼ to 4 in. The corrugated cushioning has flat surfaces for heat dissipation. • **TA Mfg. Corp.**, 4607 Alger St., Los Angeles 39, Calif.

For more details circle NED-223 D1 on enclosed inquiry slip

JOURNAL BEARING
prelubricated sintered bronze type

Designed for light to moderate loads at moderate speeds, the Permawick sintered bronze journal bearing withstands humid or abrasive environments. It runs quietly in various appliances, office machines, power hand tools, exhaust fans, fractional horsepower motors, and electromechanical drive mechanisms. Operating range is −25 to 200° F. One-piece sintered bronze combination bearing and housing is packed with Permawick self-wicking lubricant. Thirteen standard sizes from ¼-in. ID by ¾-in. OD to 20-mm ID by 47-mm OD are available. • **Tann Bearing Co.**, 3750 E. Outer Dr., Detroit 34, Mich.



For more details circle NED-224 D1 on enclosed inquiry slip

COMMANDER TAPPER
handles "IMPOSSIBLE" tapping job

THE JOB:
Tap 4 6-32 holes 11/16" deep in the hubs of production run, heat treated gears.

THE PROBLEM:
Excessive breakage of the specially relieved taps used to handle the unusual depth-to-diameter tapping job . . . spoiled parts . . . high costs. A number of different tappers were tried, but the problem remained.

THE SOLUTION:
A Commander Tapper was installed . . . adjustable torque control set to protect the tap and job was resumed.

THE RESULT:
1700 pieces were tapped without breaking a single tap. Tolerances were held and a very high rate of production was maintained.
This is typical of the performance a Commander Tapper can produce.
The extreme sensitivity, and wide range of adaptability of a Commander Tapper can be put to work for you; ask your nearby Commander Distributor for a demonstration.

114

Commander MFG. CO.
4220 WEST KINZIE STREET • CHICAGO 24, ILLINOIS

See Us At Booth 3209, ASTME Show, New York Coliseum

For more details circle NED-225 D1 on enclosed inquiry slip

New Federal Combin-O-Tool Method SAVES UP TO 46% ON SHORT RUN STAMPINGS

Some typical parts produced by Federal Combin-O-Tool Method.

Combined operations mean lower cost short run stampings whenever they can be produced by the Federal Combin-O-Tool Method. Where it formerly took 4 or 5 operations—it can now be done by Federal with only 2 or 3 operations. The labor savings are passed on to you in lower cost stampings.
Send your prints or parts today to see if they can be done with the new Federal Combin-O-Tool Method. The savings will please you.

FEDERAL

FEDERAL TOOL & MFG. CO
3618 Alabama Avenue • Minneapolis 16, Minn.
Phone WEst 9-7843
FEDERAL SHORT RUN STAMPING, INC.
918 Lyell Avenue • Rochester 6, New York
Phone CLearwater 4-9523
FEDERAL STAMPING COMPANY
7318 Atoll Avenue • North Hollywood, Calif.
TRiangle 7-0452

3 PLANTS To Serve You Better

For more details circle NED-226 D1 on enclosed inquiry slip

NOW! DRILL 3½" holes in reinforced concrete!

with SKIL ROTO-HAMMER and NEW SKIL CORE BITS

New Skil hollow core, percussion type carbide bits increase the range of the amazing Skil Model 726 Roto-Hammer from 1⅛" up to 1½" and the Model 736 from 2" up to a full 3½"!

What's more they drill right through steel reinforcing rods—an impossibility with solid carbide bits or star drills.

This means that the hammers that already drill masonry holes at the *lowest cost per hole* and with *lowest hammer maintenance* have tremendous added versatility. (No wonder Skil Roto-Hammers are certain to be the largest sellers again in '61).

Ask your Skil distributor for demonstration. Look under "Tools-Electric" in the Yellow Pages. Or write: Skil Corporation, Dept. 119D, 5033 Elston Avenue, Chicago 30, Illinois.

SKIL ...and SKILSAW POWER TOOLS

For more details circle NED-227 D1 on enclosed inquiry slip

Easy way to cut dust hazards

When nuisance dusts cause discomfort and infections, cut worker efficiency, use AO sweatbands and R-9100 respirators. 9"-long cellulose sponge sweatband covers temples, keeps perspiration from carrying foreign particles into the eyes. Keeps worker cooler, vision clearer, reduces eye dispensary cases.

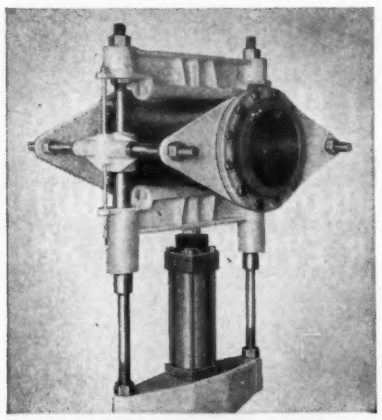
The AO R-9100 is the lightest, least expensive Bureau of Mines approved respirator for pneumoconiosis-producing and nuisance dusts. Weighing only 2 oz., it is comfortable to wear, easy to breathe through. Nearly 22 sq. in. of felt filter area. Cleans with slap, shake or airhose. A companion model R-9100T approved for dusts not significantly more toxic than lead. For details and prices, write for folder S-1298.

Your Surest Protection . . . AO SURE-GUARD Products

American Optical COMPANY
SAFETY PRODUCTS DIVISION
Southbridge, Massachusetts

Safety Service Centers in Principal Cities

For more details circle **NED-228 D1** on enclosed inquiry slip



AUTOMATED *Hydral-60* PINCH VALVE SYSTEMS

Controlled circuitry for any operating requirements

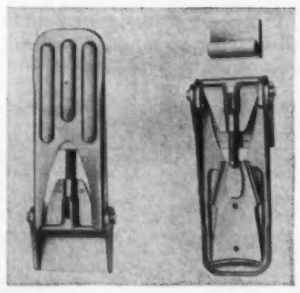
- The Massco-Grigsby Hydral-60 System consists of one or more pinch valves with a single automatically operated hydraulic pump.
- Hydraulic pump may be operated by electric motor or by air from normal plant supply system.
- Valves may be the same or different size.
- Valves in the system may be operated simultaneously or independently.
- Control valve may be manual or solenoid.
- Valves may be coordinated and interlocked with other plant equipment to automatically control tank levels, rate of flow, etc.
- Valves are self-supporting and may be operated in any position from horizontal to vertical.
- Valves may be independently controlled for normal or rapid closure.
- Valves may be held fully open, fully closed, or at intermediate positions.
- Remote control to meet individual requirements.
- Controls may be included for automatic emergency operation.
- 3" to 14" I.D. sizes, with 50, 100, and 150 psi line pressure ratings.
- Temperatures to 200° F.

WRITE FOR NEW CATALOG NO. 609
Manufacturing Division

MINE AND SMELTER SUPPLY CO.
3800 RACE STREET • DENVER, COLORADO
OFFICES AND AGENTS IN PRINCIPAL CITIES

For more details circle **NED-229 D1** on enclosed inquiry slip

TENSION LATCH
has up to ½-in. drawhook adjustment



Up to ½-in. drawhook adjustment with ultimate tensile strength of 1000 lb is afforded by the 46L universal tension latch for reusable shipping containers and transit cases. Latch is completely interchangeable, model for model, with fixed drawhook latches and has excellent load deflection characteristics without springs. Common pivot of both drawhook and handle prevents accidental opening by vibration or shock. Drawhook stows flat within the handle when latch is fully open. • **Camloc Fastener Corp.**, 91 Spring Valley Rd., Paramus, N. J.

For more details circle **NED-230 D1** on enclosed inquiry slip

FIRE ALARM STATION
with various contact configurations

This compact single-action coded fire alarm station is offered in a wide variety of contact configurations to suit requirements of many different alarm systems. Features of the UL-approved station include adjustable timing, easy replacement of code wheel, and replacement of glass rod from the front of the unit. Diecast zinc case has red enamel finish with white lettering. • **S. H. Couch Co.**, 3 Arlington St., North Quincy 71, Mass.

For more details circle **NED-231 D1** on enclosed inquiry slip

ENVIRONMENT CABINETS
for temperature, humidity tests

Controlled humidity has been added to this bench model environment simulating cabinet in the 2, 4, and 8 cu ft sizes. The temperature range is −100 to 400° F, with humidity changes from 20 to 95 per cent. Model shown has a 14 x 14 x 14-in. stainless steel chamber with a frost-free multipane window. Controls include wet and dry bulb indicating controllers. • **Cincinnati Sub-Zero Products**, 3930 Reading Rd., Cincinnati 29, Ohio.

For more details circle **NED-232 D1** on enclosed inquiry slip

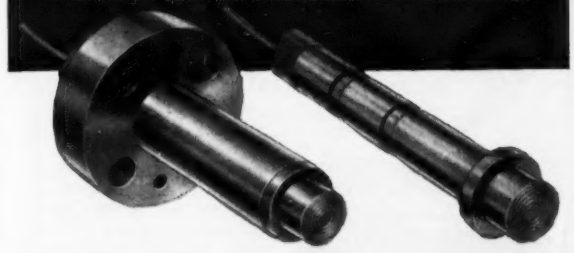
Whether you mark materials, parts, products or packages, there's a Markem machine ready to bring low cost, high production identification or decorative marking to your plant. From plastics to fabrics . . . transistors to camera parts . . . multi-color decorative marking to high production offset marking — there's a *Markem Method* to meet your marking needs. One source, with 47 years of experience in all industries, can supply the machines, type, inks, accessories and service you need. For complete information, write Markem Machine Company, Keene 3, New Hampshire.

MARKEM

EVERYTHING INDUSTRY NEEDS . . . FOR PROFITABLE MARKING . . . SINCE 1911

For more details circle **NED-234 D1** on enclosed inquiry slip

IDEAL FOR HIGH PRESSURE MEASUREMENT



Taylor "Button Diaphragm" Volumetric Pressure Systems

For high pressure extruders of all types, and other applications where space is limited, these elements are superior to anything previously used. Sensing heads are less than 1" in diameter and practically insensitive to process heat. Variety of ranges, from 0-400 psi to 0-15,000 psi, at operating temperatures up to 1,500° F. Systems are factory assembled, filled and calibrated to insure accurate measurement. For use with any Taylor pressure indicators, recorders, controllers or transmitters designed for Bourdon spring actuation.

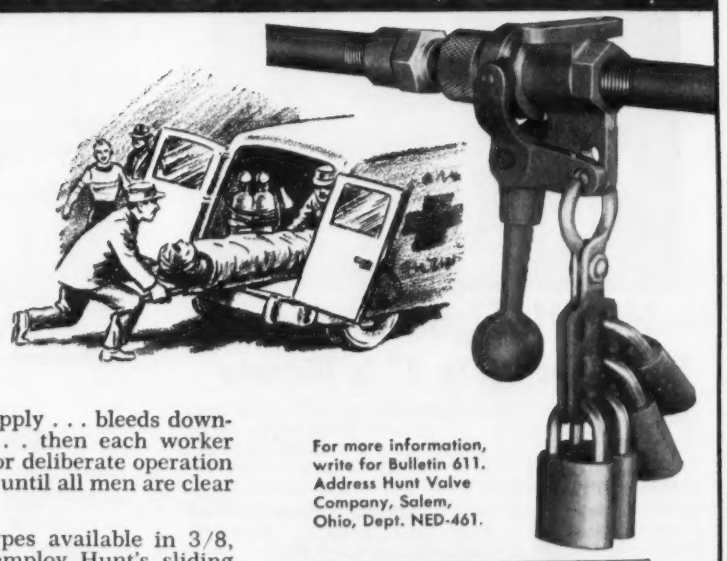
Ask your Taylor Field Engineer, or write for **Bulletin 98398.** Taylor Instrument Companies, Rochester, N.Y., or Toronto, Ont.

Taylor Instruments MEAN ACCURACY FIRST

For more details circle **NED-235 D1** on enclosed inquiry slip

HUNT SAFETY LOCK-OUT VALVES

Positive protection against machinery accidents



A Hunt Safety Lock-Out Valve installed in a machine's main air supply line can prevent accidents . . . provides a simple, positive means of cutting off and exhausting all air pressure during maintenance, repair or shutdown.

A move of the lever cuts off air supply . . . bleeds downstream pressure to atmosphere . . . then each worker padlocks the valve . . . accidental or deliberate operation of the entire machine is prevented until all men are clear and safe.

Safety Lock-Out Valves, 3-way types available in 3/8, 1/2, 3/4 and 1 in. NPT sizes, employ Hunt's sliding sleeve valving principle, with no O-rings to blow out . . . a design proved by 30 years of dependable industrial service. With safety at stake, you can't afford to buy less than the best. Call your Hunt representative today.

For more information, write for Bulletin 611. Address Hunt Valve Company, Salem, Ohio, Dept. NED-461.

HUNT
QUICK-AS-WINK® AIR AND HYDRAULIC
VALVES
HUNT VALVE COMPANY • DIVISION OF IBEC • SALEM, OHIO

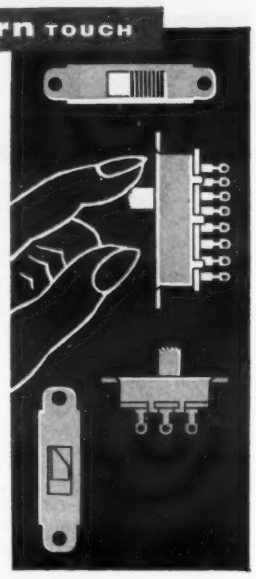
3018

For more details circle **NED-233 D1** on enclosed inquiry slip

STACKPOLE

S-L-I-D-E SWITCHES

FOR THE Modern TOUCH



Inexpensive . . . easy to use . . . these tiny, dependable switches bring new operating convenience and sales appeal to modern electrical products. They're available in over 15 basic types—the most complete line — with ratings and features to match your requirements.

- ½- to 6-amp. U.L. Ratings
- 9 Attractive Knob Colors
- 1 to 4 Positions
- 1 to 3 Poles
- Maintained or Momentary Contact
- Pushbutton-operated Types
- Lug or Printed Wiring Terminals

low cost SNAP SWITCHES

Sturdy, low-cost snap action switches for pushbutton assemblies, record players, etc. 1-6 amp U.L.I. ratings.

For Details, write, *Electronic Components Division*
STACKPOLE CARBON CO., St. Marys, Pa.

For more details circle NED-236 D1 on enclosed inquiry slip

Now available... latest edition of

FREE TECHNICAL DATA ON SEMICONDUCTOR RECTIFIER EQUIPMENT

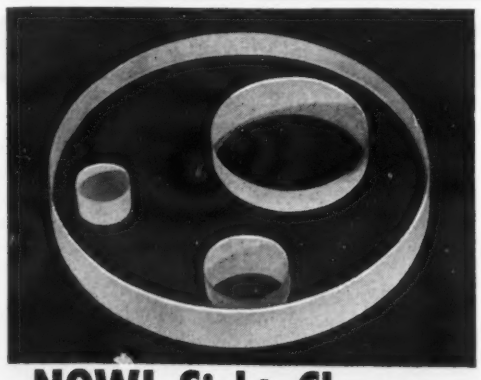
All you need to know about Semiconductor Rectifier Equipment for any industrial power conversion application in your plant. Includes Battery Chargers; D.C. Power Supplies, Mag Amp Regulated; Massive current limiting Rectifiers used with D.C. Arc Furnaces; to complete Semiconductor Rectification Systems for the operation of electrolytic cells.

Send for your free copy now.

MEAKER

THE MEAKER COMPANY
SUBSIDIARY OF SEL-REX CORPORATION
NUTLEY 10, NEW JERSEY
Factories and offices Chicago 50, Ill., Los Angeles, Calif., and Nutley 10, N.J.
Representatives in principal cities

For more details circle NED-237 D1 on enclosed inquiry slip



NOW! Sight Glasses
With Holes Up To 2" In Diameter

You can now order Swift Sight Glasses with holes from ⅛" to 2" in diameter . . . in nine thicknesses (from ⅛" to 1¼") . . . **in any shape** . . . and in sizes up to 24" by 60" (limited by size of the Pyrex glass). Standard shapes always available for immediate shipment.*

Swift Glasses are precision-ground from Pyrex Polished Plate Glass . . . they won't cloud or pit . . . resist all chemicals but HF and caustic soda solutions.

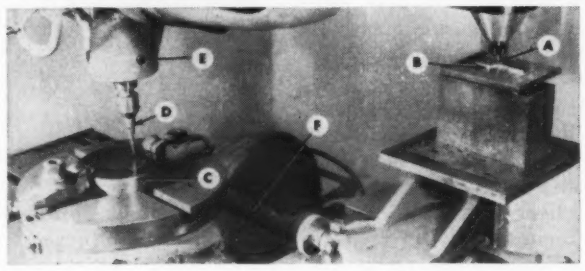
***A point to remember:** you can take care of **all** your sight glass needs **at one time,** with a single order to Swift.

SWIFT *Glass Division*
SWIFT LUBRICATOR COMPANY, INC.
5 Glass St., Elmira, N.Y.

For more details circle NED-238 D1 on enclosed inquiry slip

MILLING TRACER SYSTEM
generates two-dimensional dies

Automatic milling of reliefs on extrusion dies is possible with a standard milling head and this two-dimensional control system. It permits a constant feed rate



and supplies a fast, simple method for reproducing intricate designs, using end mills as small as 0.039 in. Shown in illustration are: (A) Stylus of sensing head; (B) tracer template, also used for gaging actual die opening; (C) die blank; (D) tapered milling cutter; (E) standard milling head; and (F) two-axis table. Tracing speed is controlled over a 50-to-1 range. Controls are used with standard machine tools, and they do not interfere with conventional operation. • **Seneca Falls Machine Co.,** Electronics Div., 23 Fyfe Bldg., Seneca Falls, N. Y.

For more details circle NED-239 D1 on enclosed inquiry slip

TORQUE METER
for small electric motors, testing bearings, checking screwdrivers

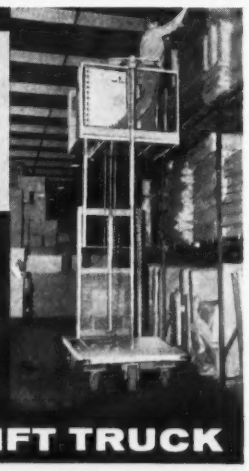
Range of 0.05 to 25 oz-in. is built into the Oz-Torqmeter for measuring the starting, operating, and stall torques and bearing friction of small electric motors. It determines the exact torque required and aids in the selection of components for electric clocks, remote control positioning devices, gear trains, relays, potentiometers, and small motorized appliances. Other uses include testing ball bearings; checking tension of screwdrivers, electric clutches, and brakes; and determining torque vs. energizing power and torque vs. speed.

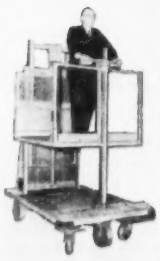
Instrument has a 2½-in. square clear acrylic housing and dial plate with readings in ounce-inches on both sides. Hollow shaft can be fitted with a chuck on one end and a collet on the other. Speeds up to 50 rpm are read without a strobe light. From 50 to 10,000 rpm a No. 790 stroboscope-tachometer is triggered from a voltage coil at the side of the housing. Instrument is accurate within 3 per cent. • **Power Instruments Inc.,** 7352 N. Lawndale Ave., Skokie, Ill.

For more details circle NED-240 D1 on enclosed inquiry slip

Add new "TRAVL-N-LIFT" Technique to your PRODUCT HANDLING

with **Weld-Bilt "RIDER-BOY"**
Self-Propelled
MODEL RB120
PLATFORM LIFT TRUCK





Ride with your load, up, down, forward or backward on new "RIDER-BOY"! Push-button controlled, it lifts rider and load up to 10 foot height. Saves labor, costly power equipment — speeds order-picking, restocking, stacking, storage, work positioning and overhead maintenance.

"RIDER-BOY" is heavy duty battery-powered. Electro-Hydraulic mechanism does all the work, through Trans-Axle Transmission and fluid-type clutch. Built for strength, smooth, effortless operation, complete safety and performance economy.

Write for complete details and prices on new "RIDER-BOY"

Materials Handling Engineers

"Weld-Bilt" PRODUCTS

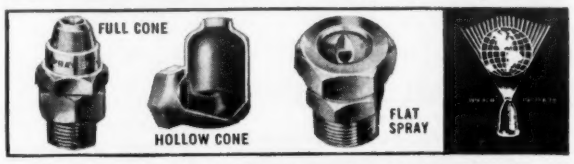
WEST BEND EQUIPMENT CORPORATION
311 WATER STREET • WEST BEND, WISCONSIN

For more details circle NED-241 D1 on enclosed inquiry slip

FULL CONE—HOLLOW CONE—FLAT SPRAY

Spraco has the most complete line of nozzles available anywhere — **IN STOCK.** Capacities range from ⅛ pint/min. to 4000 gal./min. Bronze, cast iron, and stainless steel. Write for our nozzle catalog.

SPRAY ENGINEERING CO., *106 Cambridge St., Burlington, Mass.*

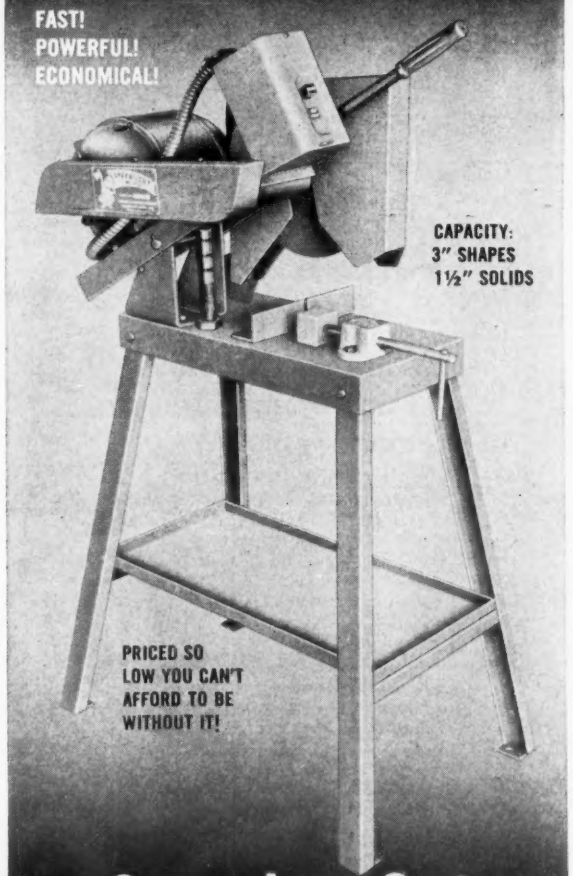


For more details circle NED-242 D1 on enclosed inquiry slip

New! No.11 Speed Cut

A BUDGET-SIZE CUTOFF FOR EVERY SIZE SHOP!

FAST!
POWERFUL!
ECONOMICAL!



CAPACITY:
3" SHAPES
1½" SOLIDS

PRICED SO LOW YOU CAN'T AFFORD TO BE WITHOUT IT!

Speed Cut
Abrasive Cutting Machines
MANUAL OR POWER-OPERATED MODELS
FOR WET, DRY OR ANY-ANGLE CUTTING!

Speed Cut

Send for complete catalog and name of nearest distributor

ABRASIVE MACHINE DIV.
BEAVER PIPE TOOLS, INC.
DANA AVE.
WARREN, OHIO

For more details circle NED-243 D1 on enclosed inquiry slip

LOW COST! HIGH QUALITY!

DODGE

SL BALL BEARING PILLOW BLOCK

A serviceable bearing for small shafts and general light machinery applications. Formed steel outer housing combines pleasing appearance with *strength* for all moderate service. Compact, fully self-aligning, effectively sealed to exclude dust and dirt, factory lubricated for life—and sealed both on and off the shaft. Flange units also. From Distributors' stocks in shaft sizes from ¾" to 1¼". Write for literature.

DODGE MANUFACTURING CORPORATION, 2100 Union St., Mishawaka, Ind.

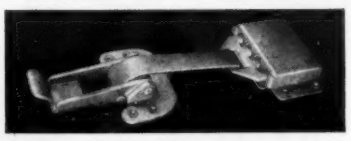
DODGE of Mishawaka, Ind.

For more details circle **NED-244 D1** on enclosed inquiry slip

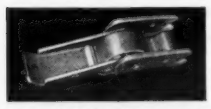
HOW TO SOLVE CLAMP AND FASTENER PROBLEMS

The answer: Get acquainted with Bassick's broad line of clamps and fasteners. Just two examples are shown here:

Bassick "Power Pack" (consisting of latch assembly, or strike, SC-52, and clamp HR-53) is designed to operate well under subzero weather conditions. Ice formation in the mechanism is practically impossible. Recommended for fastening chests, cases, testing-device covers and many similar applications. Highly shock resistant.



Hinge-type clamps, Bassick "D" Series, are ideal for fastening covers on containers, panels on aircraft equipment, truck body components, and other applications requiring the closed clamp to work as a hinge. An easy way, for example, to provide easy access from either side to a tool box, engine compartment, etc.



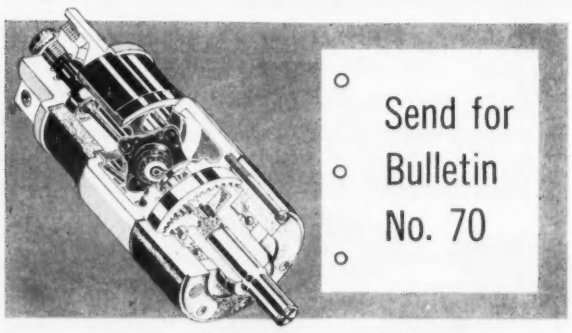
New, 1960 edition of Bassick Clamp and Fastener Catalog contains more clamps, including the exclusive Bassick Gear-Lock—the worm-gear clamp that provides 20 times the closing force of the best spring clamps. Write for your copy today. 1.4

THE BASSICK COMPANY
Bridgeport 5, Conn.
In Canada: Belleville, Ont.

Symbol of SW Excellence — Bassick — A DIVISION OF STEWART-WARNER CORPORATION

For more details circle **NED-245 D1** on enclosed inquiry slip

Compact axial-piston air motor cuts limited-space problems



Gardner-Denver axial-piston design packs 2.7 hp in $6\frac{3}{16}$" dia. x $13\frac{3}{4}$", weighs 38 lb.—permitting use in places where space is limited. Rigid spindle, heavy-duty bearings and rugged case give this air motor the ability to carry an overhung load as great as 1000 lb. with no external spindle support. Speeds to 2600 rpm. Starting torque to 82 ft.-lb. Variable speed. Reversible. Nonsparking. Works in heat, moisture or dust. Can be mounted at any angle. Other sizes from 0.6 to 2.7 hp.

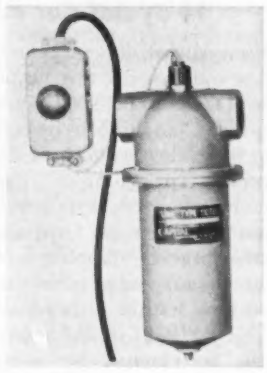
EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario

GARDNER-DENVER

For more details circle **NED-246 D1** on enclosed inquiry slip

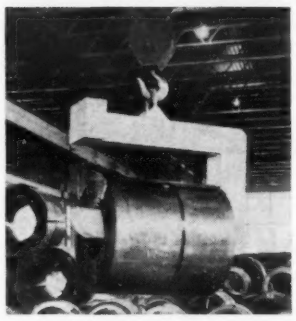
HYDRAULIC FILTER light warns of low liquid flow



Guardian flow meter and filter can be set to turn on a light or to turn off power to equipment until a dirty filter is cleaned or replaced. A warning light automatically appears when the liquid flow falls below a preset volume. Completely automatic in operation, it protects machinery from damage when the filter becomes clogged and ceases to operate efficiently. • **Capital Engineering & Mfg. Co.,** 5837 S. Ashland Ave., Chicago 36, Ill.

For more details circle **NED-247 D1** on enclosed inquiry slip

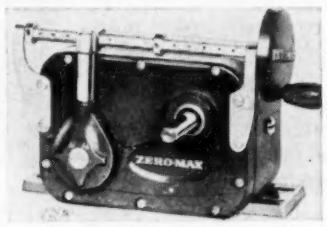
COIL HANDLING HOOKS nine sizes handle up to 15,000 lb



Used with an overhead crane, these C-hooks for handling of heavy strip and sheet coils are balanced to permit the crane operator to insert the hook in a coil with ease. The hook jaw makes a two-point contact on the inside of the coil to prevent damage. The 5-to-1 safety factor hooks are available in nine stock sizes with capacities from 5000 to 15,000 lb. Each is supplied with a safety stand to cradle it when not in use. • **Jarke Mfg. Co.,** 6333 Howard St., Chicago 48, Ill.

For more details circle **NED-248 D1** on enclosed inquiry slip

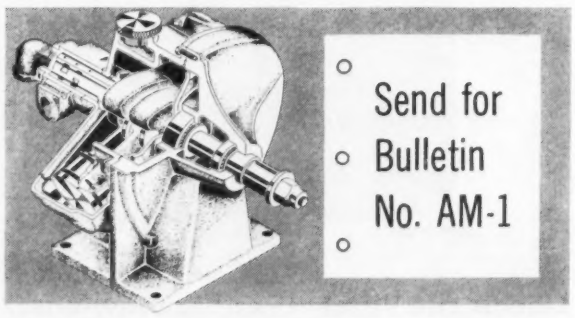
DRIVE SPEED CONTROL handwheel has zero to top range



Conversion of most Zero-Max variable speed drives from standard lever control to screw control can be done by the user in his own shop using this optional screw control mechanism. More precise settings from 0 rpm to the maximum speed setting of the drive are obtained by 47 turns of the handwheel. It is easily adapted to various remote control attachments by using cables, rods, chains, or other devices. Control will not creep, is calibrated for ease of resetting, and can be mounted for right or left-side operation on any of over 250 models of 35 basic drives rated up to ¾ hp. • **Zero-Max Co.,** 2845 Harriet Ave. S., Minneapolis 8, Minn.

For more details circle **NED-249 D1** on enclosed inquiry slip

Start heavy loads smoothly with high-torque air motor



Here's an air motor that develops high starting torque . . . maintains smooth power under all speed and load conditions. Gardner-Denver's 5-cylinder design provides overlapping power impulses. At least two cylinders are always on power stroke—three during part of cycle. Starts heavy loads easily . . . accelerates smoothly. Six sizes from 2 to 16 hp. Direct drive or built-in gear reduction. Reversible and nonreversible models.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario

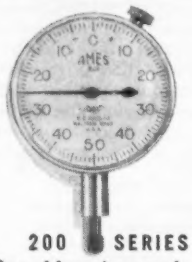
GARDNER-DENVER

For more details circle **NED-250 D1** on enclosed inquiry slip

AMEs

Masters of Measurement

PORTA-CHECK®
A transistorized comparator for fast, accurate measurement to .00001".



200 SERIES
One of four sizes; made to AGD specifications.

For more than half a century, Ames measuring instruments have been regarded as the finest available. Wherever precision is *really* important . . . you'll find Ames indicators, gauges, micrometers and comparators on the job.

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MANUFACTURERS OF MICROMETER DIAL INDICATORS AND GAUGES

For more details circle **NED-251 D1** on enclosed inquiry slip

5 Reasons Why Veelos Adjustable V-Belts Are Better for Your Drives

1. *Balanced Construction* assures faster, cleaner work. Each link and stud is identical in size and weight; no spots of varying density.
2. *Less Vibration*—up to 90% less—in machines with Veelos-equipped drives. Wear on bearings and machines is greatly reduced.
3. *Cooler Running* assures long life. Constant circulation of air around and between Veelos links prevents internal heat build-up.
4. *Greater Flexibility* reduces slippage. Each link moves around sheave independently, maintains full contact; permits shorter centers, smaller sheaves.
5. *Simple Installation* "knocks out" down-time. Saves up to 50% installation time on outboard bearing drives. No resetting, tilting or moving motors with adjustable Veelos.

Write for free Veelos Data Book

NEW!

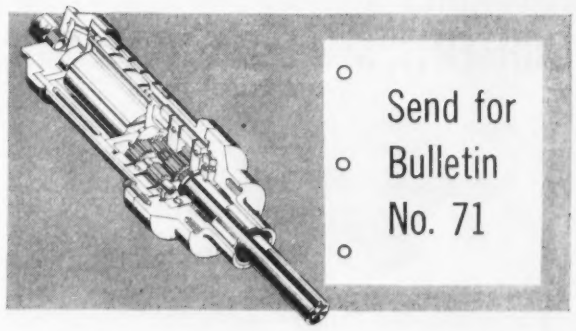
VEELOS TOOL
Provides a fast, safe way to couple and uncouple link v-belt. Every stockroom attendant needs one . . . every maintenance mechanic needs one. Order from your Veelos distributor or write for illustrated bulletin.

VEELOS® THE BALANCED LINK V-BELT

MANHEIM Manufacturing & Belting Company
Manheim 4, Pa.
Veelos is known as Veelink outside U.S.A.

For more details circle **NED-252 D1** on enclosed inquiry slip

Rugged rotary air motors for low hp, heavy-duty service



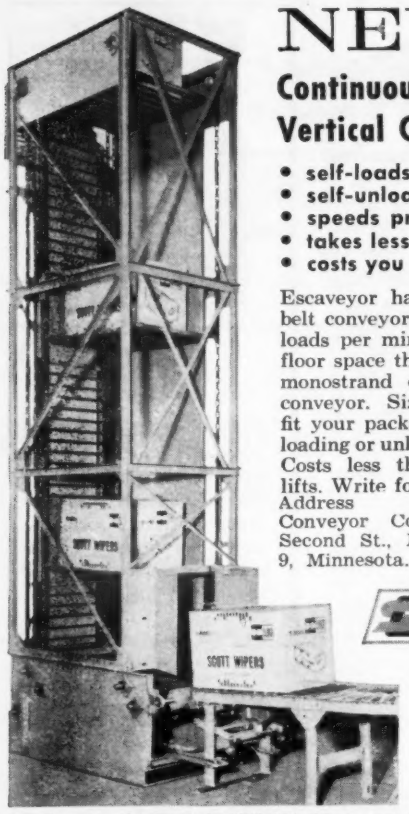
Compact rotary vane air motors designed by Gardner-Denver for low hp needs requiring heavy-duty service. Develop from ⅛ to 1½ hp. Ideal for jobs requiring quick starts and stops, continuous service or sparkless operation. All moving parts mounted in anti-friction ball or needle bearings. Plus the basic air motor advantages: positive, instantaneous control . . . continuous operation . . . no spark hazard . . . can't burn out. Can be mounted in any position.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario

GARDNER-DENVER

For more details circle **NED-253 D1** on enclosed inquiry slip



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Continuous Vertical Conveyor

- self-loads
- self-unloads
- speeds production
- takes less space
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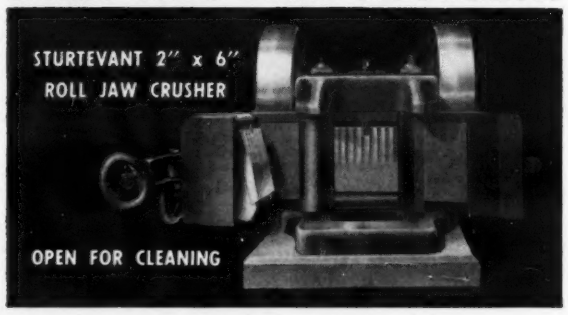
Escaveyor has continuity of belt conveyor. Moves 8 to 10 loads per minute. Takes less floor space than conventional monostrand or straight-lift conveyor. Size is tailored to fit your package. No manual loading or unloading required. Costs less than most other lifts. Write for free brochure. Address Standard Conveyor Company, 310-D Second St., North St. Paul 9, Minnesota.

STANDARD CONVEYOR
Sales and Service in Principal Cities

Send for **FREE** brochure

For more details circle NED-254 D1 on enclosed inquiry slip

SAMPLING TIME slashed...



... by Small-Scale Duplication of Full-Scale Production!

12-PAGE BULLETIN PROVES IT!

SEE how exclusive "OPEN-DOOR" design makes cleaning and maintenance quick and easy . . . how rugged construction keeps equipment running round the clock for years.

COMPARE the capacities and performance of Sturtevant Roll Jaw Crusher, Crushing Rolls, Swing Sledge Mills and Sample Grinder with what you are now using.

LEARN why the "blue chips" in industry and education prefer Sturtevant Laboratory Equipment.

WRITE FOR 12-PAGE BULLETIN on Sturtevant Laboratory Equipment and other custom-built equipment listed below. STURTEVANT MILL CO., 114 CLAYTON ST., BOSTON 22, MASS.

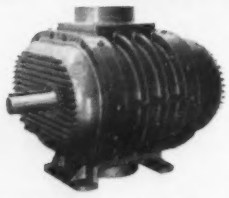
STURTEVANT
Dry Processing Equipment

The "OPEN-DOOR" to lower operating costs over more years

CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS
BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS

For more details circle NED-255 D1 on enclosed inquiry slip

RADICALLY NEW!
SUTORBILT SERIES 88 BLOWERS
LIGHTER...SMALLER...QUIETER



- 6 new models produce 200 to 2200 cfm up to 12 psi continuously, 15 psi intermittently.
- Standard or gear head ratios up to 3 to 1.
- Direct or V-belt drive.
- Mount vertically or horizontally—on trucks, tractors and trailers or in plant.
- Self-contained lubrication system.
- Special Sutorbilt timing hub.
- Write for free bulletin, Department E.

2117
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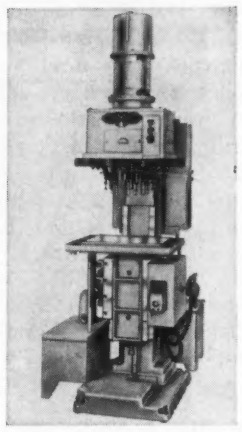
Representatives located in principal cities. Consult your classified telephone directory.

SUTORBILT CORPORATION, 2966 EAST VICTORIA ST. • COMPTON, CALIF.
SUBSIDIARY OF FULLER COMPANY • CATASAUQUA, PA.
IS WELL BUILT

For more details circle NED-256 D1 on enclosed inquiry slip

MULTIPLE SPINDLE TAPPER
14-spindle machine performs up to 16 cycles per minute at 1600 rpm

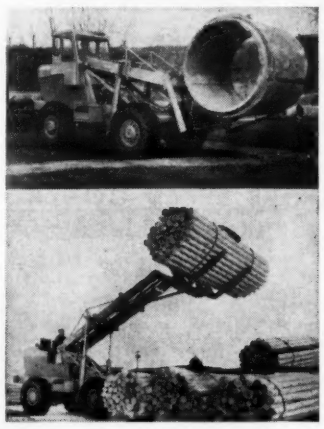


Well suited for all automated jigs and fixtures, this Deka.Drill HST-714 high speed multiple spindle tapper can perform up to 60 cycles per minute at 1600 rpm. The complete machine includes a coolant tank with pump and motor and 14 arm and bracket tapping spindles which are adjustable in any pattern within a head area of 7¾ x 12¼ in. Larger area can be reached by using adjustable outboard bearing spindles.

Unit is driven by a severe-duty reversing motor with a direct drive to gear box and is capable of 240 empty plug reversals per minute. Motor reverses electrically. Hydraulically operated table can be set to accommodate various depths within a 6-in. stroke. Table and knee assembly adjust over a 14-in. distance on the column. • **Precision Tool & Mfg. Co. of Illinois,** 1305 S. Laramie Ave., Cicero 50, Ill.

For more details circle NED-257 D1 on enclosed inquiry slip

LOADER-CARRIER
payload capacity is up to 15,000 lb and forward reach is 11 ft 4 in.



Maneuverability, traction, and mobility for loading, lifting, and carrying are built into the Dyna-Lugger, a multipurpose loader-carrier. Shown handling concrete culvert and bound poles, it also is used for concrete beams, steel pipe, logs, and other similar products. Payload capacity is 15,000 lb with lift arms retracted and 10,000 with arms extended.

The truck has four-wheel power steering with independent control for the rear wheels, four-wheel drive, shuttle type transmission with Allison torque converter, telescopic lift arms, cab with adjustable seat, and 60-in. fork carriage. Forward reach is variable up to 11 ft 4 in. Optional equipment includes two-man cab with safety glass, operator safety shield for use with open cab, dozer attachment, wide carriage, stacking carriage, 2½-cu yd bucket, lights, and hydraulic hold-down finger. • **Lull Engineering Co.,** 3045 Highway 13, St. Paul 11, Minn.

For more details circle NED-258 D1 on enclosed inquiry slip

as low as $49.50

Check the Versa-Tran* for low-cost, accurate, automatic control of

- TEMPERATURE
- PRESSURE
- LIQUID-LEVEL
- HUMIDITY

This inexpensive controller is completely transistorized. Needs no tubes, no warm-ups . . . gives instant reaction. Works with sensors that can be thermisters, probes, resistance bulbs, pressure transducers or humidity elements. Versa-Tran can be used in packaging machines, injection molding, cooking vats, tire recapping, ice cube makers, etc. Models with standard case available as low as $39.50.

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Honeywell
First in Control
SINCE 1885

For more details circle NED-259 D1 on enclosed inquiry slip

UTICA

a revolutionary new wire stripper from

UTICA

Strip fast and clean! Eliminate nicking! Reduce insulation marking! Handle any wire size from #12 to #26 . . . and do it all with Stripwright®. . . Utica's revolutionary new wire stripper. There's never been anything like it. A lightweight, versatile, pistol-grip tool engineered for ease of handling in limited access areas and designed to the same quality standards as all other Utica tools. Write for complete information.

Utica Drop Forge & Tool Division, Kelsey-Hayes Company, Utica 4, N. Y.

For more details circle NED-260 D1 on enclosed inquiry slip

BIRD DAMAGE USED TO COST MILLIONS

NEW MARK IX
BIRD REPELLER
360° REVOLVING LIGHT BEAMS
rout birds in warehouses, graneries, hangers, plants

Damage to steel, grain, plant equipment and warehoused goods totals millions of $$$ annually. NOW it's easy and inexpensive to get rid of birds for good . . . *results guaranteed!* Designed especially for indoor use, the MARK IX flashes 200 intense alternate-color beams per minute. Pounding light beams and frightening shadows chase the birds—prevent nesting and feeding. Corrosion-proof, lifetime housing; 115 V or 220 V; 1500 hour bulb; easily installed.

Write for free literature

TRIPP LITE
Famous Since 1922
Division of TRIPPE MFG. CO.
133 N. Jefferson St., Dept. NED, Chicago 6

For more details circle NED-261 D1 on enclosed inquiry slip

New! BEAD CHAIN® DRIVES

Low-Speed, Positive Drives or Motion Transfer
. . . At Far Less Cost!

NOW—BEAD CHAIN—QUALIFIED FOR DRIVES

Swivel-like Bead Chain and special non-slip sprockets make any drive possible . . . at low cost . . . eliminates expensive gears, universal joints, etc. Perfect for inaccessible locations!

THE BEAD CHAIN MFG. CO.
16 Mountain Grove St., Bridgeport, Conn.

For more details circle NED-262 D1 on enclosed inquiry slip

CURB those re-roping costs with Electroline

WIRE ROPE FITTINGS

Easiest way to make wire rope *last longer*—and stop excessive costs of re-roping: use Electroline wire rope fittings.

- **Tremendous holding power—Electroline's graduated compression grip *holds on "for keeps"*; damps vibration, insures against failures.**
- **Easy to install—simple job for unskilled workers with ordinary tools; no molten metal or acids.**
- **Reclaimable—use them again and again—for years.**
- **A fitting for every need—in the size you want.**

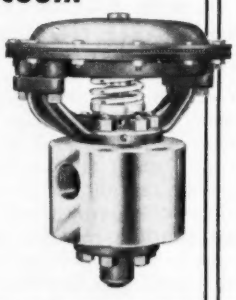
Send for the handy illustrated Electroline catalog and full information. A smart move toward sizable savings.

Electroline PRODUCTS
THE SUPERIOR SWITCHBOARD & DEVICES COMPANY
Box 590, Canton 1, Ohio • In Canada: Box 158, Brampton, Ont.

For more details circle NED-263 D1 on enclosed inquiry slip

SINCLAIR-COLLINS DIAPHRAGM OPERATED VALVES

. . . for control of high pressure hot or cold raw water, steam, oil, air, gas or vacuum



2, 3 and 4-way, automatic 2-pressure, 5-top, lever, check and selector types • air operated • automated or manual control • stainless steel trim • aluminum bronze billet bodies • pressures from near perfect vacuum to 6000 psi • ½ to 3 in. NPT • screw or flange mounted.

For more information, write for Bulletin SC-59. Address The Sinclair-Collins Valve Company, Akron 9, Ohio, Dept. NED-461.

8120

The SINCLAIR-COLLINS VALVE Co.
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
AKRON 11, OHIO

For more details circle NED-264 D1 on enclosed inquiry slip

SLASH washing costs with John BEAN AQUABLAST

HIGH PRESSURE WASHERS

IS YOUR CLEANING PROBLEM ONE OF THESE...OR SIMILAR?

- Processing tanks
- Metal rust or scale
- Heat exchanger tubes
- Boxcar interiors
- Cement trucks
- Animal carcasses
- Food plant floors
- Chemical residues

One man with AQUABLAST equals a crew of men using ordinary water pressures. The important difference is that water, discharged at 600 lbs. pressure from an Aquablast gun, cuts through caked dirt, hardened deposits, gummy residues or accumulated grime like magic! John Bean Aquablast Washers are complete, motor driven pumping units for use with 1 to 3 guns.

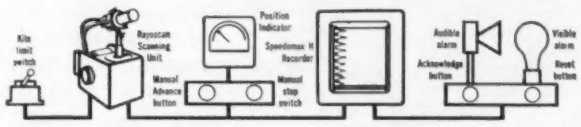
Send information request form — today!

John BEAN DIVISION OF FOOD MACHINERY & CHEMICAL CORP. INDUSTRIAL SALES DEPARTMENT LANSING MICHIGAN • SAN JOSE, CALIFORNIA

For more details circle NED-265 D1 on enclosed inquiry slip

SCANNING PYROMETER SYSTEM locates hot spots and sounds alarm

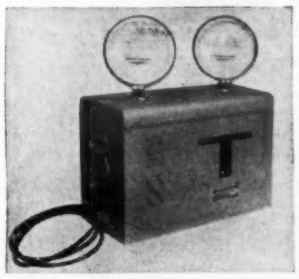
This easily-installed pivoting Rayoscan pyrometer system continuously scans and records the temperatures on the shell of a rotary kiln. It also automatically



sounds an alarm before any potential hot spot reaches a dangerous stage. The location is "pointed out" and the rate of change of the hot spot temperature is shown. It monitors in the range of 200 to 1000° F. • **Leeds & Northrup Co.**, 4901 Stenton Ave., Philadelphia 44, Pa.

For more details circle NED-266 D1 on enclosed inquiry slip

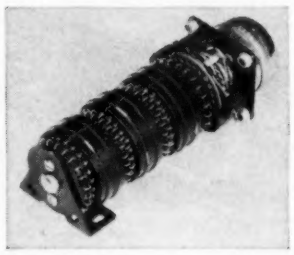
EMERGENCY LIGHTING UNIT kept charged by standard 115-v ac



Plugged into standard 115-v ac outlet which maintains battery charge, the Light Warden Chargomatic 88 emergency lighting unit functions immediately if power fails. Loss of power throws a relay to turn on lights. Unit has two flood heads and can support a total of five lights in operation. The 6-v, 105 amp-hr, lead acid, glass jar type battery is equipped with visible hydrometer balls to show charge level. Unit is also available with three-conductor cord and plug, or condulet for permanent ac connection. All units have test switches. • **Electric Cord Co.**, 432 Plane St., Newark 2, N. J.

For more details circle NED-267 D1 on enclosed inquiry slip

ROTARY SWITCH contacts operate 10 million times



Excellent vibration resistance is exhibited by Type RSA rotary switch which has magnetically operated, hermetically sealed contacts rated for 10 million operations at 100-ma resistive load. Contacts are gold plated and sealed in nitrogen to prevent corrosion. Switch has 24 positions per deck, with the number of decks provided as required. It is resistant to external vibrations to 2000 cps at levels up to 35 g. Ambient temperature range is −55 to 80° C. Switching rate, as limited by rotary solenoid drive mechanism, is 15 steps per second. This mechanism has a 2 million step life. • **Hathaway Denver Div.**, Hathaway Instruments, Inc., 5800 E. Jewell Ave., Denver 22, Colo.

For more details circle NED-268 D1 on enclosed inquiry slip

get this valuable **HIGH pressure pump data** from **John BEAN**

If your pumping requirements involve pressures from 100 to 12,000 psi, temperatures up to 500°F, you'll find John Bean's pump literature extremely helpful. Get these data-packed bulletins for handy finger-tip reference . . . or avail yourself of John Bean trained and experienced engineers for immediate action.

FREE

L-66-38	Triplex Pumps, inside packed
L-1167	Triplex Pumps, outside packed
L-1168	Triplex Power End for Industrial reciprocating pumps
L-25-70	Vertical Duplex Pumps
L-1169	John Bean Pump Accessories
L-1106	Aquablast High Pressure Washers

ALSO CUSTOM DESIGNED PUMPS

SEND INFORMATION REQUEST FORM TODAY
(Please list catalog number wanted)

John BEAN DIVISION OF FOOD MACHINERY & CHEMICAL CORP. INDUSTRIAL SALES DEPARTMENT LANSING MICHIGAN • SAN JOSE, CALIFORNIA

For more details circle NED-269 D1 on enclosed inquiry slip

This RUST-BUSTING TEAM SAVES
• PARTS
• TIME
• TEMPER

18,000 leading shops depend on Kroil when a frozen bearing, bushing or bolt threatens production or starts to cost expensive man hours.

During seventeen years they have learned that it pays to use Kroil first and save parts. In these days of high labor costs, shops cannot afford to use hammer-and-chisel methods when stuck-together parts cause trouble.

WHAT USERS SAY:

"As I remember, we had quite a bit of construction machinery lying around in our yard. Suddenly there was a rush call for some of it but 90% of the pulleys on this machinery was locked by rust. We then applied Kroil to each one and the next morning the machinery was ready to roll."

Try Kroil at our risk. Send for a gallon—use it under the worst conditions. Return it for full credit if not satisfied. Kroil, $4.35 a gallon; Kroiler, $1.50 each . . . together, $5.25, f.o.b. Nashville.

KANO LABORATORIES
1074 Thompson Lane, Nashville 11, Tenn.

For more details circle NED-270 D1 on enclosed inquiry slip

"We Like Peerless Packet Hoists..."

Steamfitters, boilermakers, ironworkers and maintenance men make the same comment about Peerless Packet Aluminum Hoists. They say, "We like these hoists because their light weight permits us to carry them from job to job more easily."

Not only are these hoists much lighter than the all-steel model, but they are just as strong and efficient—combine the desired lifting qualities with the portability that many users want.

In ½, 1 and 2-ton units. See your local Harrington distributor for complete details. Or write for a copy of Catalog R.

THE HARRINGTON COMPANY
Plymouth Meeting 16, Pa.

For more details circle NED-271 D1 on enclosed inquiry slip

High Pressure LOW MAINTENANCE with John BEAN pumps

STANDARD PUMP CAPACITIES* to 12,000 PSI

	INSIDE PACKED		OUTSIDE PACKED	
	Pressures to	Liquid Temp. to	Pressures to	Liquid Temp. to
Vertical Duplex	500 psi	160° F.	1,000 psi	200° F.
Horizontal Triplex	800 psi	160° F.	12,000 psi	500° F.

- Lifetime sapphire cylinders or plungers.
- "Roto-splash" lubrication of all drive end parts.
- Distortion-free cast iron housings maintain constant bearing alignment.
- Free-acting, ball-type and spring loaded poppet valves, replaceable valve seats make for easier maintenance.

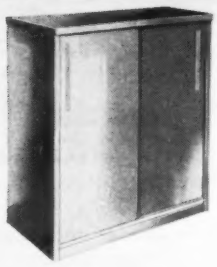
Also: Packaged power pumping units • Custom-designed pumps • High pressure washers

Send information request form—today!

John BEAN DIVISION OF FOOD MACHINERY & CHEMICAL CORP. INDUSTRIAL SALES DEPARTMENT LANSING MICHIGAN • SAN JOSE, CALIFORNIA

For more details circle NED-272 D1 on enclosed inquiry slip

You Need Borroughs STEEL CABINETS



New
Sliding-Door Models
3 heights—29", 42", 78"
Styled by Dietrich

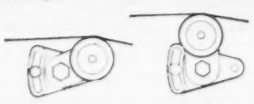
because . . . Borroughs Sliding-Door Cabinets are smart and sturdy . . . they have long, vertical, anodized aluminum door pulls that eliminate stooping, and slide doors with finger-tip ease on quiet nylon rollers . . . sliding shelves are adjustable without nuts or bolts . . . many more features for the asking . . .

send for catalog!

BORROUGHS MANUFACTURING COMPANY OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

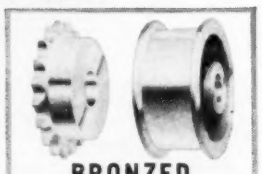
For more details circle NED-273 D1 on enclosed inquiry slip

Controlled tensioning eliminates shock loading through excessive chain vibration, and horsepower loss through belt slippage.



- ROTATING ARM ACTION FOR GREATER ADJUSTMENT
- FULL 360° POSITIONING

A low cost tensioner for single and multiple width drives that is more adaptable to machine frames. *See your Power Transmission Distributor* or write . . .

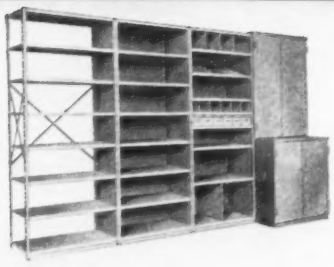


BRONZED BUSHED IDLERS
14 SIZES
AVAILABLE FROM STOCK

BREWER MACHINE & GEAR CO.
1441 N. 2nd St. St. Louis 6, Mo.

For more details circle NED-274 D1 on enclosed inquiry slip

You Need Borroughs STEEL SHELVING



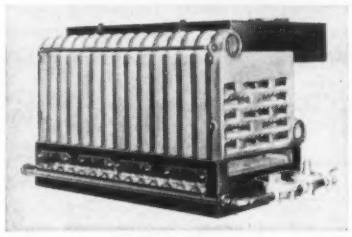
because . . . you can save time, labor and money from the very start of installation . . . you can assemble entire units without special tools . . . you can adjust shelves without nuts or bolts . . . you can move entire units without disturbing adjacent units . . . and Borroughs Steel Shelving has many, many more advantages . . .

send for catalog!

BORROUGHS MANUFACTURING COMPANY OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

For more details circle NED-275 D1 on enclosed inquiry slip

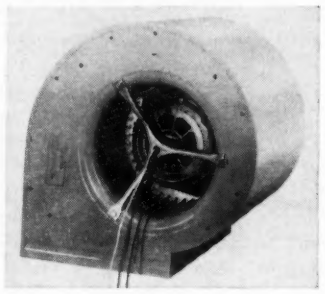
GAS-FIRED BOILER
for hot water, steam heat systems



Natural, manufactured, mixed, and LP gases can be used to fire the Super Series 170 boiler, a cast iron unit that meets IBR, AGA, and ASME requirements. It is rated from 680,000 to 6,120,000 Btu per hour input, and is suited for hot water and steam heating systems. High offset water tube design, cast iron drilled port type burners, and removable end doors for easy access to flue ways and steel jackets are features. • **Peerless Heater Co.**, Boyertown, Pa.

For more details circle NED-276 D1 on enclosed inquiry slip

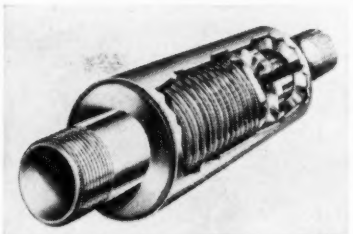
INSIDE-OUT BLOWER MOTOR
rotor and stator are reversed



Conventional relationship of the rotor and stator are reversed in this inside-out motor. The stator thus becomes the rotor to which a blower wheel is attached. Space is saved, and efficient centrifugal blower action is obtained by this line of fractional-horsepower permanent split capacitor motors. • **A. O. Smith Corp.**, Electric Motors Div., 531 N. Fourth St., Tipp City, Ohio.

For more details circle NED-277 D1 on enclosed inquiry slip

EXPANSION COMPENSATOR
has screwed, welding, flanged ends



Thermal growth in pipes is absorbed by the Model HS expansion compensator. It incorporates heavy duty two-ply bellows, antitorque mechanism, and a protective shroud, all of stainless steel, and is suited for use under corrosive conditions at working pressures to 175 psi and temperatures to 750° F. Sizes from ¾ to 3 in. have screwed, welding, or flanged ends. Also offered is an all-bronze model for use where dissimilar metals might cause corrosion problems. This type is made in the same size range with male thread and sweat ends for 150 psi, 406° F applications. • **Flexonics Corp.**, 1315 S. Third Ave., Maywood, Ill.

For more details circle NED-278 D1 on enclosed inquiry slip

JONES #4800

Hand Tachometer

BROAD RANGE
50 — 50,000 R.P.M.
with stop button

assures better production

HIGHER OUTPUT — QUALITY CONTROL obtained by maintaining proper machine speeds. Also helps avoid breakdowns by detecting irregularities.

CARRY IT FROM JOB TO JOB and keep it handy for quick, accurate tests. Choice of readings in R.P.M., F.P.M., etc.

GUARANTEED ACCURACY—superior construction, trouble-free. Unaffected by moisture, temperatures, electric currents.

Many other Portable and Stationary Models are available for use on all types of industrial machines.

Write for catalog K

JONES MOTROLA CORP.
Stamford, Conn.

For more details circle NED-279 D1 on enclosed inquiry slip

KEEP MACHINES RUNNING
...reduce maintenance costs,

¾" Size Union Illustrated

for water, steam and air service!

Here is a compact, efficient rotating union—

- ★ LEAKPROOF
- ★ CORROSION PROOF
- ★ EASY TO SERVICE
- ★ VIRTUALLY FRICTIONLESS
- ★ PRECISION BUILT FOR LONGER LIFE
- ★ INTERCHANGEABLE with any other rotating union
- ★ VERSATILE—For Monoflow or Duoflow operation, available in ½", ¾", 1", 1¼" and 1½" sizes
- ★ MINIMUM TORQUE makes it ideal for high speed applications

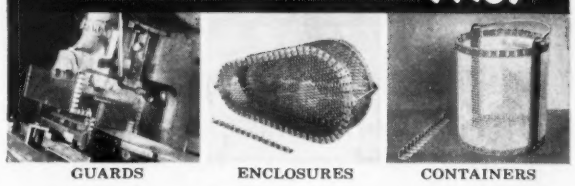
See how this dependable, new rotating joint can reduce inventory of replacement parts because of Deublin's standardization of sizes. Keep "shut downs" from wrecking your production schedules. Pays for itself many times over.

Write today for full details and prices.

DEUBLIN COMPANY
1925 STANLEY ST., NORTHBROOK, ILL.

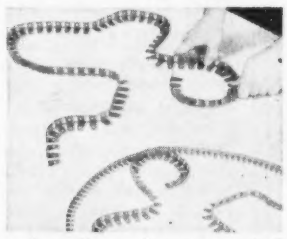
For more details circle NED-280 D1 on enclosed inquiry slip

You'll Make These Items FAST



GUARDS ENCLOSURES CONTAINERS

. . . with ACROFLEX, the PLIABLE, NOTCHED STEEL STRAPPING



Your maintenance department will find Acroflex as handy as nails and wire. You'll use it to fabricate guards on all dangerous points of moving machinery. Acroflex consists of a series of angular connected links in 8′ or 10′ lengths, with each link pierced to reduce drilling when used with wire mesh or expanded metal. Used for fastening metal to metal, metal to wood, or wood to wood at right angles in numerous shapes.

FREE ADDITIONAL DATA is contained in this folder. Write for your copy today. Ask for bulletin A59.

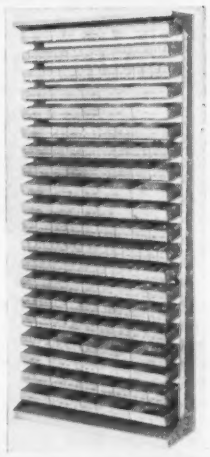
Territories available for qualified representatives.

ACRO METAL STAMPING COMPANY
340 E. Reservoir Ave., Milwaukee, Wis.

For more details circle NED-281 D1 on enclosed inquiry slip

You Need Borroughs small parts BINS

because



. . . you get maximum storage in minimum space with Borroughs "Handee Andee" Storage Bins . . . everything's always in place — easy to see — easy to reach . . . each model holds 4 different sizes of slip-on, slip-off bin boxes in your own arrangement . . . there are many more good sound reasons why Borroughs "Handee Andee" small parts bins should be your first choice.

send for catalog!

BORROUGHS MANUFACTURING COMPANY OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

For more details circle NED-282 D1 on enclosed inquiry slip

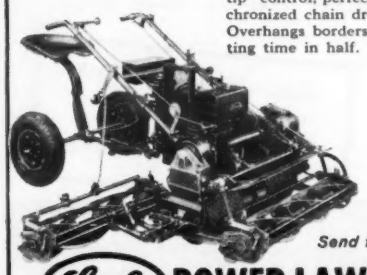
Don't be a SLAVE to your mower!

If you have: High grass cutting and trimming costs • frequent repair problems • streaks, rolled down and uncut grass • low turn-in value . . . it's time to buy a

Lifetime

Locke POWER MOWER and trimmer

Lockes feature "floating" action, "fingertip" control, perfectly balanced, fully synchronized chain driven reel-blade-cutters. Overhangs borders by 1/3. Reduces cutting time in half.



2 Models—
Single and Triplex
4 Basic Sizes—
25", 30", 70" and 75"

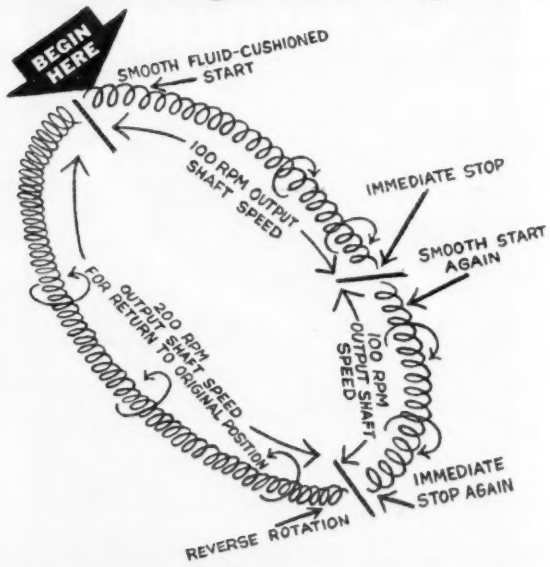
Get a demonstration today!

Send for literature.

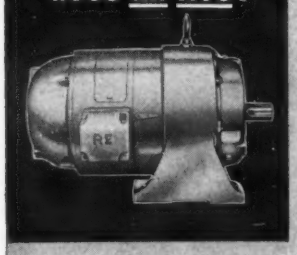
Locke POWER LAWN MOWERS
1087 CONNECTICUT AVE., BRIDGEPORT 1, CONN.
A product of The Locke Steel Chain Co.

▲ For more details circle NED-283 D1 on enclosed inquiry slip ▲

How would you solve this 5-stage drive cycle?



This one modern REULAND power package does all five!



Modern Reuland Power represents a whole new concept in electric motors. Today, motors are supplied as complete drive packages...*tailored to the needs of each customer.*

Shown here is a typical demonstration of *Modern Reuland Power.* Contained within this one frame is a fluid coupling . . . two-speed reversing duty motor...gear reducer...and magnetic brake.

Would a similar drive *package* help *you?*

OUR NEW GENERAL CATALOG WILL COME IN HANDY—SENT FREE ON REQUEST

Gives details on Reuland's "Xpandable Design" and Free Special-Motor Library. Be sure to get a copy for your files.

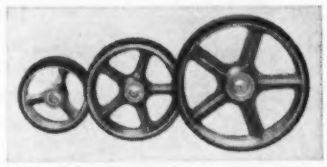
REULAND MOTORS

REULAND ELECTRIC COMPANY
WESTERN DIVISION: Alhambra, Calif.
EASTERN DIVISION: Howell, Michigan
DISTRIBUTORS IN ALL PRINCIPAL CITIES

MODERN MOTORS FOR MODERN-DAY PRODUCTS

▲ For more details circle NED-284 D1 on enclosed inquiry slip ▲

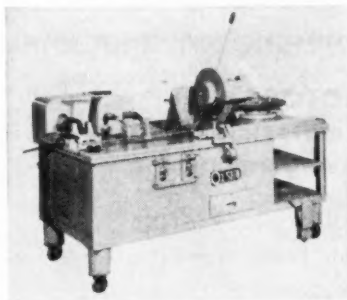
TRUCK & CASTER WHEELS
low-profile tire reduces wear



Low profile tire depth of Glide-E-Z roller bearing truck and caster wheels reportedly reduces flexing and deflection which cause premature wear under high load and torque. Wheels assure easy rolling of manually operated industrial trucks. They are available in sizes and compounds to meet nearly all industrial requirements and operating conditions. • **Divine Brothers Co.**, Caster & Wheel Div., 200 Seward Ave., Utica, N. Y.

▲ For more details circle NED-285 D1 on enclosed inquiry slip ▲

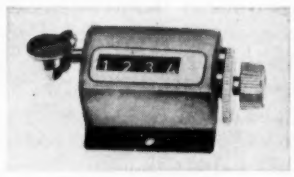
TUBE FABRICATING CENTER
for making 1/4 to 2 1/2-in. assemblies



Providing a complete power workshop on wheels, this portable Tube Fabricating Work Center facilitates making up any required tube assembly in the 1/4 to 2 1/2-in. size range. All the operations of cutting, deburring, flaring, and bending of hydraulic and pneumatic ferrous and nonferrous tubing can be done at the job. Tools include an abrasive cut-off machine, power deburring heads, power flarer, and an optional power threading vise. • **Olsen Mfg. Co.**, 4622 Delemere Blvd., Royal Oak, Mich.

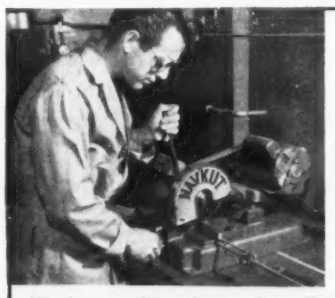
▲ For more details circle NED-286 D1 on enclosed inquiry slip ▲

ADD & SUBTRACT COUNTERS
two models count up to 9999



Manual stroke bench counters with 0.177-in. high white figures on black wheels count to 9999 and can be reset to 0000 by one turn of a reset knob. Model HK 26A with subtraction device adds one digit for each stroke of its spring-loaded finger lever. Subtraction is by turning the small wheel. Uses include inspection, checking, and assembly operations, and traffic counting. Model HK 26S inventory counter with an addition device subtracts one count for each stroke of the lever and allows addition by turning the small wheel. It is used for perpetual stock and inventory control. Both have a nickel plated case with plastic window and a mounting baseplate with two holes. Price for 1 to 24 units is $8.88 each. • **Infotronics Co.**, Box 124, River Forest, Ill.

▲ For more details circle NED-287 D1 on enclosed inquiry slip ▲



New $300 precision cut-off saw paid for itself in 15 minutes

Navkut*, the new precision cut-off saw, cut production costs of "spacers" substantially at Unicorn Engineering Inc. (now owned by Computer Measurements Co., Sylmar, Calif.). The cost of spacers was reduced from $8 to 80c each by Navkut's simple cut-off operation. During every 15-minute production run, the Navkut saw paid for itself. Such results aren't unusual with Navkut, the saw that can cut parallel tolerances to within .002" in ferrous, non-ferrous, wood, and plastic materials with only two types of blades. Usually the cut finish and accuracy will be so precise there is no need for milling or grinding. All this, yet the Navkut saw costs only $300. See for yourself how it can save you money. Write today for a free 15-minute demonstration in your shop.

*TRADEMARK

Navkut saw is another product marketed by:

NAVAN PRODUCTS INC.
Subsidiary of
North American Aviation, Inc.
900/J North Sepulveda
El Segundo, California

▲ For more details circle NED-288 D1 on enclosed inquiry slip ▲

with ANCHOR reusable CLAMP-TYPE COUPLINGS

Emergency repairs in the shop and in the field are easily, simply made with Anchor Clamp-Type Couplings—with or without Split-Flange. Only two automotive wrenches are needed.

Compact, streamlined, plated . . . Anchor's Clamp-Type Couplings provide guaranteed leak-proof connections up to the burst strength of hose . . . and can be used, again and again, with no loss of efficiency.

For use with Anchor wire braided or rayon braided hose . . . Anchor Clamp-Type Couplings fit hose from 1/4" to 2" I.D.

Your local Anchor distributor will show you these performance-proven Anchor reusable Clamp-Type Couplings . . . built to Anchor's rigid specifications for unexcelled service.

Andy Anchor says:

Ask your Anchor distributor for descriptive literature on Anchor Clamp-Type Couplings, with or without Split-Flange . . . or write direct.

ANCHOR Coupling Co. Inc.
Box 111, Dept. BB, Libertyville, Ill.
Branch Plants: Dallas, Tex., Plymouth, Mich.

FIRST FOR YEARS IN O.E.M—NOW . . . FIRST IN REPLACEMENT

▲ For more details circle NED-289 D1 on enclosed inquiry slip ▲

You'll be amazed at NoDrip Plastic Coating savings

Instead of using expensive absorbent insulation or multiple coats of paint on cold pipes, tanks and air ducts, switch to NODRIP PLASTIC COATING to *permanently* stop condensation drip and corrosion! Cost is far less, application fast and simple. Applies like plaster with trowel or brush.

Non-toxic, odorless, non-flammable. Resists acids, alkalis, brine solutions or vapor. Use on metal, concrete, brick, plaster, tile. Stops condensation drip, rust and corrosion. 1 and 5 gal. cans or 55 gal. drums.

for smaller pipes use **NoDrip TAPE**

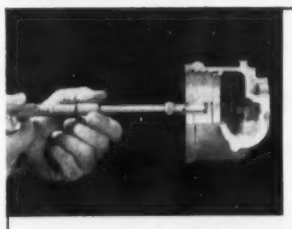
Pliable, cork-filled, self-adhering tape. No tools or fasteners.

Forms 100% vapor- and moisture-proof jacket, even around unions, tees, angles, valves.

At all leading hardware, mill supply and plumbing jobbers. For full information and technical handbook write

Mortell COMPANY
526 Burch Street, Kankakee, Ill.

▲ For more details circle NED-290 D1 on enclosed inquiry slip ▲



New micrometer can measure internal lands and grooves to ± .0005" ...on the machine!

Now, for the first time, you can measure internal lands and grooves, O-ring widths, retaining ring grooves, keyways, and cylinder grooves simply *and accurately.* The new Multi-Mike* internal groove micrometer operates just like any conventional micrometer. Easy-to-read Starrett micrometer head has graduations in thousandths of an inch. Multi-Mike can reach into, and measure, bores as deep as 5 3/4"; the two standard models fit holes down to 1/2" or 1/4" diameters. The Multi-Mike measures groove widths from .050" to 1.050" and lands from 0 to 1.000". And this amazing new internal micrometer can do all this while the piece is still on the machine!

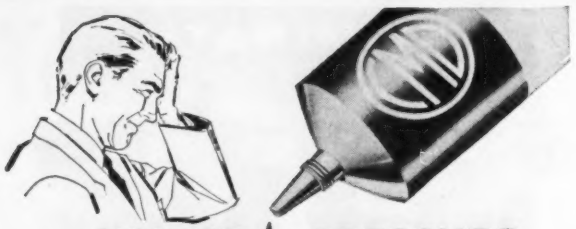
Multi-Mike produces higher quality work with lower cost set-ups and fewer rejections . . . gives you greatly reduced inspection and quality control costs. Write today for free literature.

*TRADEMARK; PATENT PENDING

Multi-Mike Micrometer is another invention marketed by:

NAVAN PRODUCTS INC.
Subsidiary of
North American Aviation, Inc.
900/P North Sepulveda
El Segundo, California

▲ For more details circle NED-291 D1 on enclosed inquiry slip ▲



UNDER PRESSURE FOR HIGHER PRODUCTION?

CMD EXTREME PRESSURE ANTI-SCORING LUBRICANTS

WILL *DEFINITELY* give you fewer rejects, longer runs—NON-GALLING, EVEN at TWENTY *TONS* per square inch!

This most remarkable lubricant has been *proved* in laboratory tests as the *very best* for lathe centers, steady rests, thrust bearings, broaching, swaging, tapping and many new operations you may not think possible today!

Read how big industry has solved reject problems, longer runs at savings up to 81% over commonly used lubricants. Free booklet of testimonials, new uses, new lubricating facts. Write.

CHICAGO MANUFACTURING & DISTRIBUTING COMPANY
1928 W. 46th St. • Suite D-4 • Chicago 9, Ill.

For more details circle NED-292 D1 on enclosed inquiry slip

MODERNIZE PARTS STORAGE . . . MORE ACCESSIBLE TO ASSEMBLY!

Low-Cost Flexible Stackbin System Saves Space, Time and Labor

Stackbin®-Stackrack® Combinations are the ideal way to minimize parts, tools, materials handling. Stackbins are portable containers, so you can carry materials throughout your process without transferring contents to any other container. Stored in Stackracks, every Stackbin is instantly accessible *when it's needed*. You never disturb another bin. Hopper fronts on Stackbins provide visibility and accessibility to the materials. Available in 7 sizes, Stackbin-Stackrack Combinations make most efficient use of floor space. With inexpensive Adapters any small units can be stacked on larger units. Related items can be kept in one place. Individual units lock together: no tools, no setup time needed.

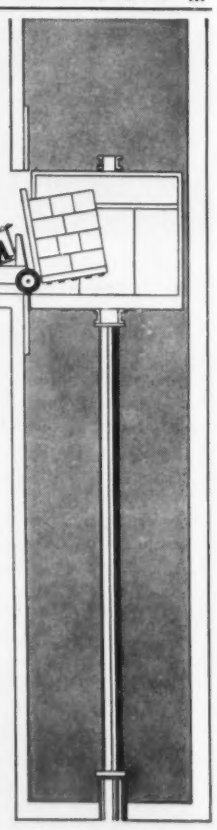
WRITE FOR NEW CATALOG
All Stackbin Products Sold Direct
STACKBIN CORPORATION
1081 Main St., Pawtucket, R. I.

Mfgd. and sold in Canada exclusively by Wickware-Stackbin, Ltd., Perth

STACKBIN® SYSTEM "Stacked and Still Accessible"

For more details circle NED-293 D1 on enclosed inquiry slip

Most practical elevator for heavy-duty service



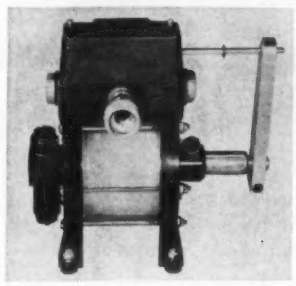
- Economical, dependable hydraulic operation
- Ruggedly built for shock loading . . . 1000 to 100,000 lb. capacities
- Elevator supported by hydraulic system . . . no overhead machinery, no cables
- Adjustments quickly made on one central control unit.
- Easily installed in new or old buildings

Rotary *Write for full information*

Oildraulic® Elevators
ROTARY LIFT COMPANY
Division of Dover Corporation
1023 Kentucky, Memphis 2, Tenn.
Chatham, Ontario

For more details circle NED-294 D1 on enclosed inquiry slip

AUTOMATIC PROPORTIONER adds solubles to water system

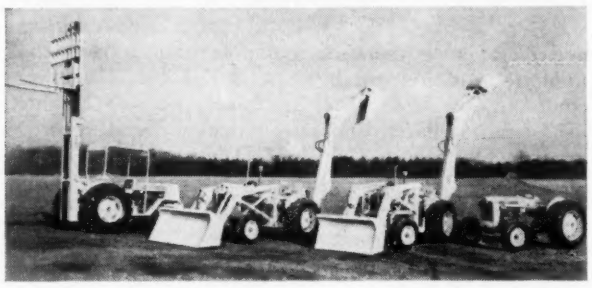


Installed as part of any watering system, the Moded V-1 Prime Proportioner adds precise amounts of liquid solubles to treat up to 300 gph of water. It delivers up to 1 oz of any solution per gallon. The flow responsive device operates on water pressure alone and maintains proper proportions despite water pressure fluctuations between 5 and 80 psi. Unit is hooked to any line with two standard T-fittings, a cutoff valve, and two pieces of ordinary garden hose. It weighs only 3½ lb, has only three moving parts, and is encased in metal with stainless steel valves and springs. • **Proportioning Devices Co.**, Eighth & Wood Streets, Vineland, N. J.

For more details circle NED-295 D1 on enclosed inquiry slip

INDUSTRIAL TRACTORS line includes materials handling and earth moving equipment

Two new series of industrial tractors and a front-mounted loader have been added to the Ford line of special purpose materials handling and earth moving



equipment. Common features of tractors are a 5000-lb capacity front axle, power steering, foot throttle, comfort seat, and Red Tiger 4-cylinder engines. Latter can be supplied with diesel, gasoline, or LP-gas fuel options.

Four transmission options including a 10-speed Select-O-Speed power-shift type are offered. The Model 720 industrial loader has a 2000-lb lift and 4000-lb breakaway capacity. Mounted on the 4000 Series tractor, it will load, raise, dump, and return in 12 sec. A ½-cu yd stockpile and a 60-in. high-backed tread width bucket are optional.

Shown are the 4000 Series heavy duty fork lift truck, the 4040 Series industrial tractor with a 2500-lb capacity loader and 12-ft backhoe, the 4000 Series tractor with loader and backhoe, and the 2000 Series industrial tractor. • **Ford Motor Co.**, Tractor & Implement Div., 2500 E. Maple Rd., Birmingham, Mich.

For more details circle NED-296 D1 on enclosed inquiry slip

FREE! NEW A.R.S.C.M. BOOKLET

NEW ROLLER CHAIN HORSEPOWER RATING and DRIVE-SELECTION DATA for ENGINEERS

As a public service, Morse Chain Company announces the availability of the new 12-page Roller Chain Rating booklet produced by the Association of Roller & Silent Chain Manufacturers.

Because of the years of research work performed by members of the A.R.S.C.M., the service life of roller chain can be predicted with much more accuracy. As a result, users of ASA roller chain can transmit more power than previously published, and engineers will benefit from this report of proven data compiled for quick reference in this valuable booklet.

Send for your copy on your own letterhead. No obligation. Write Dept. No. 19-120:

MORSE CHAIN COMPANY ITHACA, N. Y.

MORSE A BORG-WARNER INDUSTRY

For more details circle NED-297 D1 on enclosed inquiry slip

• *Centerless Ground to extreme accuracy. Special new-type Equipment, assures concentric chamfered or formed ends—no cut-off burrs.*

Dowel—Straight—Countersunk—Angle and Spherical Ends
.020" to .1875" Diam.
.125" to 2" Length

Precise Specifications
Accurately met. If requested on order, a surface analysis tape, showing surface in micro-inch measurements, will be furnished. Tape magnifies 39,370 times.

Small orders or volume production to your exact requirements and material specifications.

Quality Precision Work!
Prompt Deliveries!
Prices you will like!
SEND US PRINTS FOR QUOTATION

COMMERCIAL CENTERLESS GRINDING COMPANY
6605 CEDAR AVE., CLEVELAND 3, OHIO
Phone: ENdicott 1-3412

For more details circle NED-298 D1 on enclosed inquiry slip

ASSURED HAND PROTECTION

CHARLESTON CHARCO RUBBER CO.

CHARCO "NEO-SOL" ALL MILLED NEOPRENE RUBBER GLOVES

CHARCO "HY-SOL" BUNA N SYNTHETIC RUBBER GLOVES

BOTH GLOVES MADE BY THE MULTIPLE DIP CEMENT PROCESS — NOT LATEX COAGULATION

"Neo-Sol" gloves offer dependable protection from most industrial chemicals and solvents.

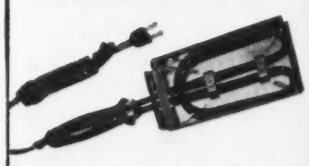
"Hy-Sol" gloves offer premium protection from organic solvents and industrial chemicals.

Write for NEW INDUSTRIAL GLOVE CATALOG

CHARLESTON RUBBER COMPANY
18 STARK INDUSTRIAL PARK CHARLESTON, S. C.

For more details circle NED-299 D1 on enclosed inquiry slip

HYDE *lectric* Paint Remover

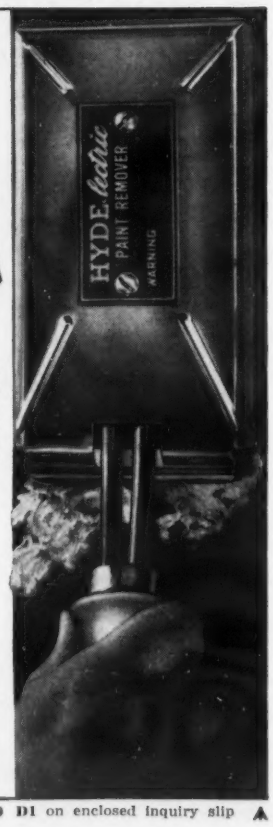


Handy for plant maintenance — foolproof heating element like that in an electric range. Heats up fast and removes old paint down to bare wood in seconds, no matter the age or number of coats of paint.

1,000 watts, 115 volts, AC/DC current.

Write for descriptive catalog sheet and Fix-Up, Paint-Up Tool Chart.

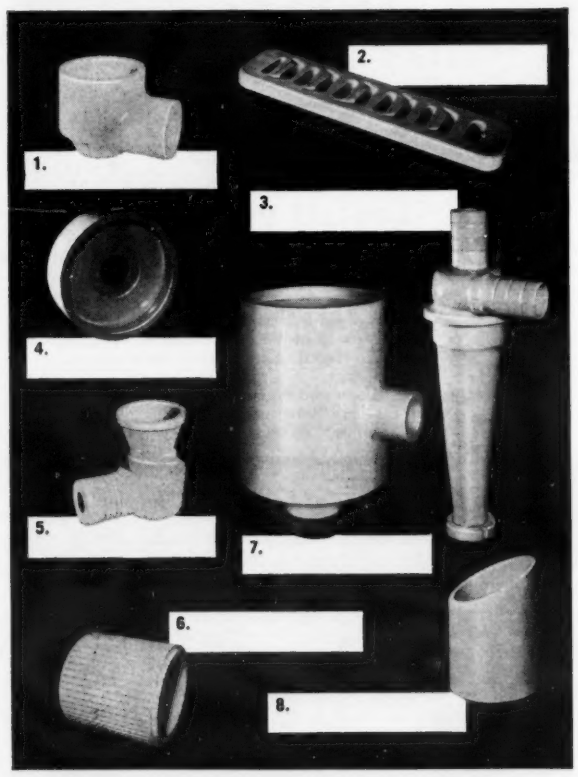
HYDE MFG. CO.
SOUTHBRIDGE, MASS., U.S.A.



For more details circle NED-300 D1 on enclosed inquiry slip

▲ For more details circle NED-301 D1 on enclosed inquiry slip ▲

HOW MANY OF THESE Lapp "SPECIAL SHAPE" PORCELAINS CAN YOU IDENTIFY?



Probably not too many. That's because these are all custom-made porcelains, produced for specialized needs.

Lapp Chemical Porcelain in customized shapes has solved thousands of problems where acid and/or abrasion-resistant surfaces are required.

Other important considerations are the low cost of raw materials (especially when compared with high alloys), the advantageous physical properties of Lapp porcelain (hardness, density, zero absorption, uniformity).

Custom-made porcelain can solve your problem and save you money. Ask us. Special shapes get special attention here at Lapp.

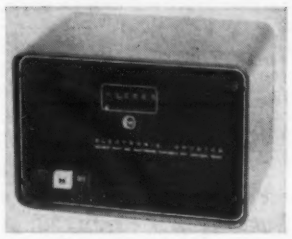
WRITE *for description and specifications of Lapp Chemical Porcelain. Lapp Insulator Co. Inc., Process Equipment Division, 2516 Poplar Street, LeRoy, New York.*

Lapp

ANSWERS: 1. Steam ejector entraining chamber; 2. Paper maker's felt conditioner plate; 3. Cyclone Classifier; 4. Godet wheel for rayon filaments; 5. Funnel cock for etching machine; 6. Roll for rayon processing; 7. Condenser chamber; 8. Outlet liner for brick line tower.

▲ For more details circle NED-302 D1 on enclosed inquiry slip ▲

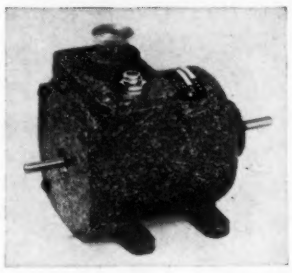
ELECTRONIC COUNTER
now has lineal measuring device



Recently introduced Count/Pak electronic counter is now available with the Sentinal twin photohead device for high speed lineal measuring. Used in conjunction with rotating rolls over which material is passed for length measurement, the dual pick-up device counts rotations of the delivery roll and senses whether material is present or not. Sensing pick-up can be fed back to perform machine control functions. System is suited for counting or measuring wire, cable, paper, cloth, and film, and allows varying degrees of automation. • **Veeder-Root Inc.**, Electronic Controls Div., Danvers, Mass.

▲ For more details circle NED-303 D1 on enclosed inquiry slip ▲

MINIATURE TORQUE PICKUP
range is from 50 to 1000 oz-in.



Accurate torque measurements in the 50 to 1000-oz-in. range are made at speeds from stall to 20,000 rpm with this Model MTE miniature torque pickup. It can be used with belt or gear drive. To simplify maintenance, the entire brush assembly is changed by merely removing two screws. Instrument can be used for testing small motors, gyros, servo motors, synchros, and actuators. • **Lebow Associates, Inc.**, 14857 W. 11 Mile Rd., Oak Park 37, Mich.

▲ For more details circle NED-304 D1 on enclosed inquiry slip ▲

ABRASIVE CUTOFF MACHINE
11-in. wheel cuts 3-in. shapes

Using an 11-in. diameter abrasive wheel with a 1-in. bore, the Speed-Cut No. 11 cutoff machine quickly cuts up to 3-in. shapes and 1½-in. solids. Machine is equipped with drive pins and a screw-type clamping vise to hold work. It weighs only 136 lb, stands 21½ in. tall, and can be mounted on a stand or workbench. • **Beaver Pipe Tools, Inc.**, 300 Dana Ave., Warren, Ohio.

▲ For more details circle NED-305 D1 on enclosed inquiry slip ▲

NEW! Utility model airless spray unit

Lincoln's "No-Air" Dyna-Spray System cuts cost in applying paints and other industrial finishes. No atomizing air or material heating is needed. Paint is supplied direct from 5-gallon container by Lincoln's Power-Master pump. The Dyna-Spray gun lays an even coating, reduces overspray and bounceback, and frequently eliminates need for a second coat.

Write for Dyna-Spray Bulletin 404R

Model MD-81 costs less than $500
(Also available in portable model with 5-gal. reservoir, and heavy duty system for 55-gal. factory drum.)

LINCOLN ENGINEERING COMPANY
4010 GOODFELLOW BLVD ST. LOUIS 20, MO
DIVISION OF THE McNEIL MACHINE & ENGINEERING CO.
6105

▲ For more details circle NED-306 D1 on enclosed inquiry slip ▲

SERVICE FOR YOUR B&D TOOLS

Check the Yellow Pages under "Tools-Electric" for the location of the nearest Black & Decker factory service branch or authorized service station.

Free tool inspection when requested • Genuine B&D parts used • Factory-trained technicians • Standard B&D Guarantee at completion of recommended repairs • Fast service, reasonable cost, always.

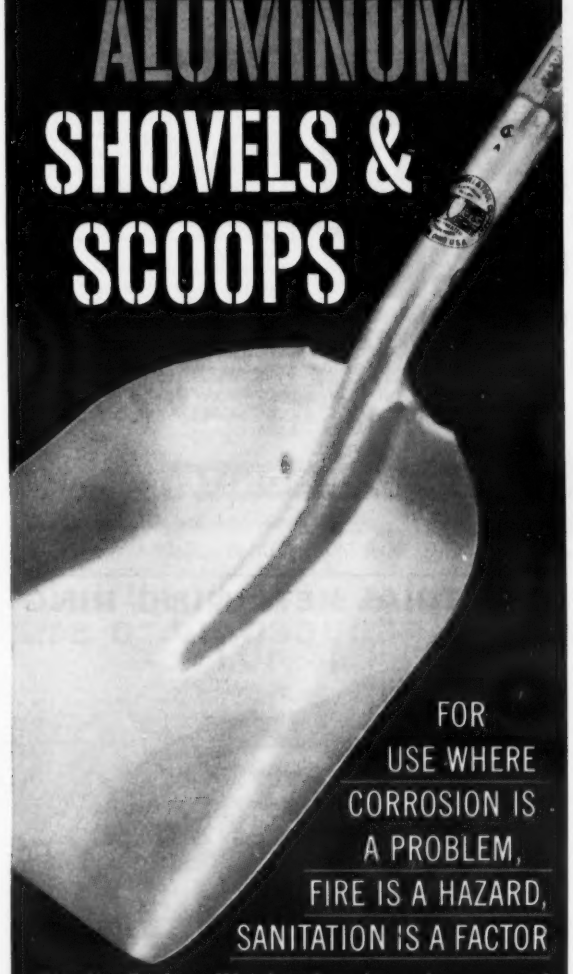
Or write for address of nearest of more than 50 branches and service stations to: THE BLACK & DECKER MFG. CO., Dept. 1904-S, Towson 4, Md.

Black & Decker

QUALITY TOOL SERVICE

▲ For more details circle NED-307 D1 on enclosed inquiry slip ▲

WOOD'S ZEPHYR WEIGHT ALUMINUM SHOVELS & SCOOPS



FOR USE WHERE CORROSION IS A PROBLEM, FIRE IS A HAZARD, SANITATION IS A FACTOR

Wood's Zephyr Weight shovels and scoops of light-but-lasting aluminum alloy:

RESIST CORROSION . . . far outlast their steel equivalents.

WON'T SPARK . . . Are safe in flour mills, grain elevators, refineries, chemical plants — anywhere a chance spark can set off dust, gas, or vapor.

ARE SANITARY. Food processors' scoops are ALL-aluminum; smooth finished.

AND THEIR LIGHT WEIGHT CUTS WORK 15-18%.

Makers of TRU BLU *Tools by Wood*

THE WOOD SHOVEL & TOOL CO. • Piqua, Ohio

▲ For more details circle NED-308 D1 on enclosed inquiry slip ▲

STOPS RUST!

BRUSH OR SPRAY!

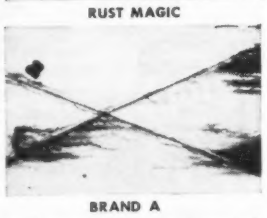
530% better than other widely promoted brands

DRY IN 20 MINUTES! TOP COAT IN 2 HOURS!

Krylon Rust Magic penetrates rust in minutes, bonds itself to the metal, positively prevents further corrosive action. Compatible with almost any finish . . . lacquers, enamels, varnishes, acrylics, epoxies, vinyls, latex, oil-base and water-base paints. Earned a near-perfect 9.1 rating in ASTM Rust Prevention Index tests . . . 530% higher than other leading brands! At leading jobbers and paint stores everywhere—or write on your company letterhead for information.

RUST MAGIC SUPERIORITY

RUST MAGIC



BRAND A

Metal panels subjected to extreme salt spray for 325 hours. Rust Magic panel film shows no defect or corrosion except where scribed through to bare metal. Brand A shows severe blistering, under-film corrosion, lifting and creeping.

KRYLON, INC. NORRISTOWN, PA.

Since 1948 KRYLON has sold more aerosol paints than all other aerosol brands combined

▲ For more details circle **NED-310 D1** on enclosed inquiry slip ▲

Your **WATER** CONDITIONING IS **OK** WITH **S-K** PREVENTIVE MAINTENANCE

Prevent clogging deposits . . . caused by scale and corrosion . . . on your water-using equipment. With Stiles-Karlsonite products for *assured preventive maintenance* . . . your water is always crystal clear . . . tasteless . . . non-toxic.

Easily installed . . . Stiles-Karlsonite dispensers automatically feed Karlsonite into water systems. No moving parts . . . minimum maintenance.

Today . . . write for new 24-page brochure.

STILES-KARLSONITE CORPORATION

Dept. SKC Waukegan, Illinois

▲ For more details circle **NED-311 D1** on enclosed inquiry slip ▲

INDUSTRIAL RETAINING RING PRICES REDUCED UP TO 51%

Series 1000, Series 3000 and Series 3100 Industrial Retaining Ring prices—in quantities up to 100,000—have been greatly reduced.

Thanks to modern, efficient production methods you can now get these Industrial Retaining Rings—either pre-stacked or bulk packed—at new, low prices . . . and pay less for pre-stacked rings than you have been paying for bulk packed. Reductions apply to standard materials and finishes.

Send for your new, revised IRR Price List—61N.

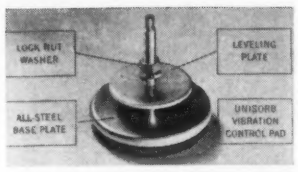
IRR *Originators of modern retaining ring dispensing*

INDUSTRIAL RETAINING RING COMPANY

57 Cordier Street, Irvington 11, New Jersey

▲ For more details circle **NED-312 D1** on enclosed inquiry slip ▲

MACHINE LEVELING MOUNT
also absorbs vibration and sound



Series LR 500 machine mount is supplied with either 3 or 4-in. leveling bolts and with any of three types of Unisorb material for different load ranges. The low cost unit can be selected to accommodate almost any piece of machinery weighing up to 1000 lb, including lathes, grinders, and other precision machine tools. Mount eliminates the need for bolting or lagging equipment to the floor, and provides nearly complete damping of sound and vibration. It may be cemented to the floor if desired. • **Felters Co.,** Unisorb Div., 210 South St., Boston 11, Mass.

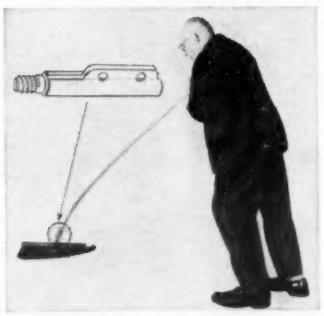
▲ For more details circle **NED-313 D1** on enclosed inquiry slip ▲

ELECTRIC CONNECTION INSERT
for use in molded plastic parts

Durable brass threads in such molded plastic parts as terminal blocks, switch components, and other electrical parts are provided by the Clinch insert. It is anchored by expansion in plastic parts after molding. By placing a terminal or contact strip over the eyelet which protrudes above the workpiece surface, then crimping the eyelet over the terminal, a strong and highly conductive connection is formed. Lead wires are attached with conventional binding screws. Stocked are sizes 4-40 to 8-32 with 0.040 and 0.064-in. eyelet heights for terminals with No. 6 to 10 holes. • **Heli-Coil Corp.,** Phelps Mfg. Div., Shelter Rock Lane, Danbury, Conn.

▲ For more details circle **NED-314 D1** on enclosed inquiry slip ▲

BRUSH HANDLE ADAPTER
prevents breakage of long handles



Breakage of long push-broom handles at the point where they screw into the brush block is minimized with this metal adapter. It consists of a solid steel screw part welded to a 16-gage steel contraction clamp. Handle is held firmly in the clamp. • **Fence Painter Corp.,** Meinhardt Cleaning Materials Div., 4911 S. Racine Ave., Chicago 9, Ill.

▲ For more details circle **NED-315 D1** on enclosed inquiry slip ▲

CHANGE BULBS EASILY AND SAFELY

WITH A McGILL® ADAPTABLE LAMP CHANGER

Write for Catalog 84, full of information on McGill Electrical Specialties

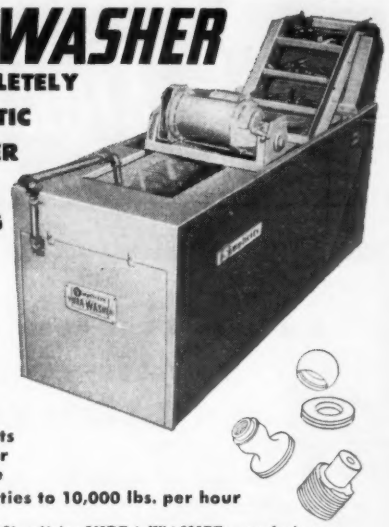
engineered electrical products McGILL® *precision needle roller bearings*

McGILL MFG. CO. INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

▲ For more details circle **NED-316 D1** on enclosed inquiry slip ▲

VIBRA-WASHER

. . . THE COMPLETELY NEW AUTOMATIC PARTS WASHER AND METAL CONDITIONING MACHINE



- **Labor saving**
- **Automatic unloading**
- **For single or multi-stage operations**
- **No nesting of parts during cleaning or conditioning cycle**
- **Adjustable capacities to 10,000 lbs. per hour**

The versatile new Simplicity VIBRA-WASHER, revolutionary machine for washing and conditioning of small metal parts, stampings and castings, employs a vibrating work carrier that automatically conveys parts through cleaning or conditioning bath. Solution is forced around parts, even into blind drillings and slots. In single stage, VIBRA-WASHER removes chips, oil and grease quickly . . . economically. In multi-stage, several units in line will provide cleaning, rinsing and phosphating, eliminating "between-stage" handling. Write today for Bulletin 107, to: Industrial Washer Division.

Simplicity TRADE MARK REGISTERED

212 ENGINEERING COMPANY • DURAND 15, MICH.

▲ For more details circle **NED-317 D1** on enclosed inquiry slip ▲

REVCO

ULTRA-LOW TEMPERATURE CABINETS

for

- **Research**
- **Storage**
- **Seasoning**
- **Testing**

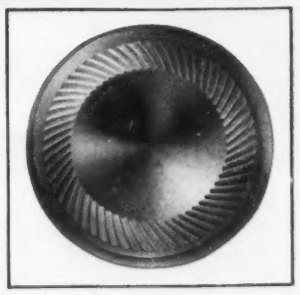
Seven Revco cabinets, both chest and upright styles, are available. Capacities range from 1.5 to 6 cu. ft. in chests and to 22 cu. ft. in uprights. Units provide temperatures to −140° F. controllable within ±1°. Optional accessories are offered. Immediate delivery on all units.

For your FREE copy of the helpful folder, "Selecting a low temperature cabinet," write Revco, Dept. NED-41.

Industrial Products Div., REVCO INC. Deerfield, Michigan

Setting Trends in Refrigeration Since 1938

▲ For more details circle **NED-318 D1** on enclosed inquiry slip ▲



5 Times As Vibration-Resistant As Any Other Socket Set Screw—UNBRAKO!

- Tests by SPS Laboratories for Advanced Research show knurled-cup UNBRAKO fully 5 times as vibration-resistant as closest competitor—*with equal torquing!*
- *And*—you can tighten an UNBRAKO High Torque up to 40% tighter than ordinary set screws because of its deeper socket, radiused socket corners, fully formed threads.
- Bite provided by exclusive knurled cup point makes UNBRAKO High Torque literally self-locking.

Demand proven reliability. Specify UNBRAKO High Torque socket set screws.* Sizes #0-1 in., alloy or stainless, and with Nylok.† See your SPS distributor or write for Bulletin 2067.

*Standard . . . They sell at regular price

†T.M. Reg. U.S. Pat. Off., The Nylok Corporation

INDUSTRIAL FASTENER Division **SPS**

JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle **NED-319 D1** on enclosed inquiry slip ▲

Why buy 1/2 a Striper?

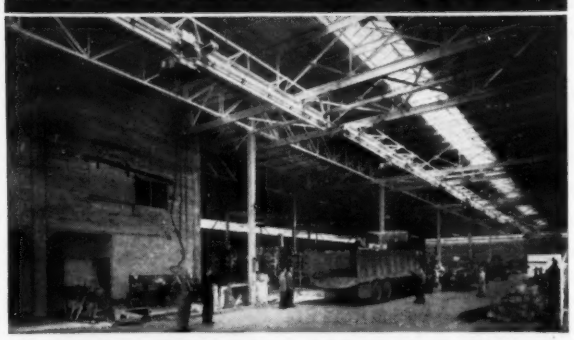
MARKER doubles the life of safety lines
...and serves as general-purpose PORTABLE SPRAYER

Safety lines last twice as long when applied by the atomized-pressure method as compared to gravity feed roller or brush machines, thus saving paint, labor, and time. The versatile Model 1-10 stripes accurate lines (2½" to 5" widths) on any surface in aisles, parking areas, fire lanes, and warehouse space. It's plenty fast too — one man can mark 8,000 feet of 4" line per hour! Large 11 gallon paint tank eliminates refill delays. Plus, the machine serves as a general-purpose portable sprayer. Larger Model 3-10 available. Write for details today. M-B Corp., New Holstein, Wisconsin.

M-B CORPORATION NEW HOLSTEIN, WIS. Refuse Packers Line Stripers • Sweepers
QUALITY EQUIPMENT SINCE 1907

For more details circle NED-320 D1 on enclosed inquiry slip

What a Wonderful Warehouse!

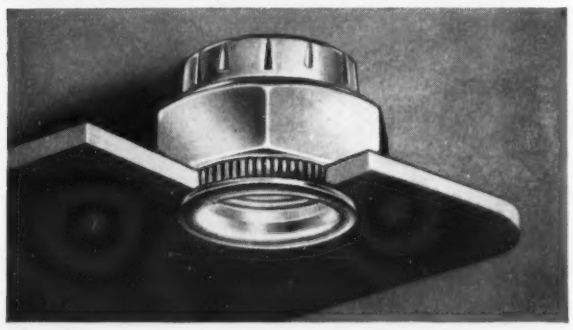


7 Cranes interlock...Span 6 bays 340 ft. long!

Here's a metal distributing warehouse with no unloading docks! Seven American Monorail cranes unload directly from an indoor railway siding along one wall and from a 3-lane truck driveway thru the center of the building.
Transfer of loads from bay to bay poses no problem. All cranes interlock at fixed transfer points to allow swift transfer of stock to any point in any direction throughout this 340 ft. x 300 ft. warehouse!
A Monorail system can streamline your handling. Write for free literature.

AMERICAN MONORAIL 1116 E. 200th STREET CLEVELAND 17, OHIO

For more details circle NED-321 D1 on enclosed inquiry slip



Easiest way to put tapped holes in sheet metal—FLEXLOC clinch nuts

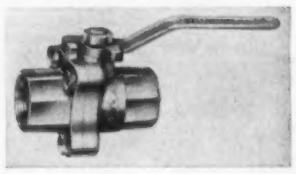
- Serve as locknuts or stopnuts—hold screw tight wherever wrenching stops.
- Save time in blind mounting—hollow shank serves as guide for screw.
- Easily installed. No riveting, no welding, no auxiliary locking elements to worry about.
- Reusable repeatedly without loss of locking power.

Get FLEXLOC self-locking clinch nuts from your SPS distributor. Sizes #0 to ¼ inch—for materials from 1/32 to 3/16 inch thick. Or write us for literature and samples.

INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-322 D1 on enclosed inquiry slip

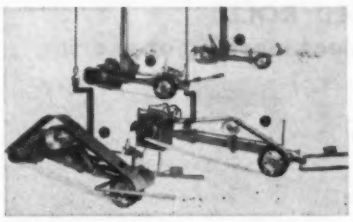
BRONZE BALL VALVE
seals in either direction of flow



Air, water, oil, gas, and fluids compatible with bronze can be handled by the F-125 forged naval bronze ball valve. Its Auto-Mating seats provide positive sealing in either direction of flow. A spring, retainer ring, and O-ring seal behind the valve seat assure constant compression, self-adjustment, and a tight seal, even on low pressure and vacuum lines. • **Ball Valves, Inc.**, 41 Jackson St., Worcester, Mass.

For more details circle NED-323 D1 on enclosed inquiry slip

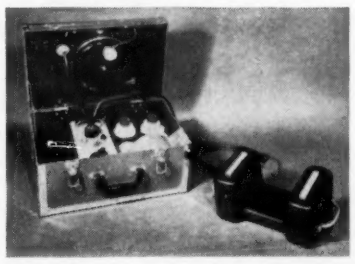
ABRASIVE BELT GRINDERS
20 swing frame models in line



Addition of a medium duty series to line of abrasive belt swing frame grinders now provides 20 models, including the previously available heavy duty, extra heavy duty, and G & P 6-72 units. By changing mountings, accessories, and modifications, almost unlimited combinations are possible to meet any need. Line includes ratings from 2 hp and up, with air or spring tensioning, and with 2 to 6-in. wide by 72 to 132-in. long belts. • **Grinding & Polishing Machinery Corp.**, 2530 Winthrop Ave., Indianapolis 5, Ind.

For more details circle NED-324 D1 on enclosed inquiry slip

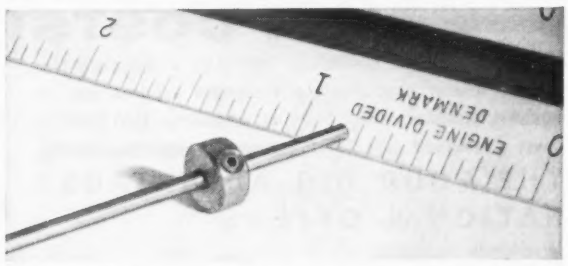
PARTICLE INSPECTION MAGNET
flux density can be controlled



A new magnetic particle nondestructive inspection system is now available in kit form. The system uses Recordaflux film which can be stripped from the inspected part and filed as a permanent record. The Model 100-B 110-v ac Recordaflux magnet shown has a capacity of 5000 amp turns and is strong enough to lift 350 lb. Variac control of the field selects the proper field strength to suit the inspection job. The variable control also facilitates demagnetizing the inspected part. The magnet simplifies saturation of ¼-in. thick carbon steel across its poles, detects defects ¼-in. below the surface of ½-in. plate, and pinpoints surface cracks in engine blocks, foundry parts, and steel shafts. • **Budd Co.**, Instruments Div., Box 245, Phoenixville, Pa.

For more details circle NED-325 D1 on enclosed inquiry slip

NOW! For miniaturized assemblies...



HALLOWELL steel collars in microsizes

- 1/16, 3/32, ⅛ inch bore
- Fitted with UNBRAKO set screws for positive locking action
- Precision machined from finest bar stock
- Extremely versatile—used as thrust collars, locking collars, spacers, cam operators, indexing devices, etc.

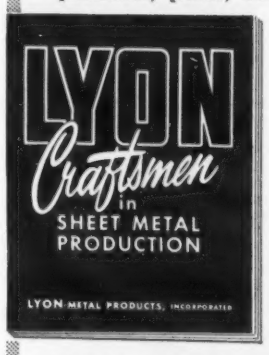
Send for Bulletin 868—complete information on all sizes of HALLOWELL steel and cast iron collars.

INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-326 D1 on enclosed inquiry slip

DO YOU NEED a low-cost source of metal fabricating?

Three large, well equipped plants at **Aurora, Ill., York, Pa.** and **Los Angeles** geared to economical production. Experienced in handling thousands of special items . . . products, parts, sub-assemblies, merchandising units, made to your specifications.



Modern equipment includes coil steel slitting, leveling and edging, press work, all types of welding, electrostatic finishing. Sound design and engineering counsel.

Send for 16-Page Booklet
It tells All!

LYON METAL PRODUCTS, INC.
General Offices, 431 Monroe Avenue, Aurora, Illinois

For more details circle NED-327 D1 on enclosed inquiry slip

CONVERT TO LP-GAS with BEAM BUTANE-PROPANE CARBURETION EQUIPMENT

SAVE MONEY TOO!

CLEAN: BEAM LP-Gas Carburetion virtually eliminates noxious fumes.

ECONOMICAL: Beam Carburetion conversion kits for gasoline engines TRIPLES ENGINE LIFE — SAVES up to 40% on FUEL — Cuts oil consumption 66% — Cuts motor overhaul and downtime to a minimum.

MODERN: BEAM is first with the latest improvements in LP-Gas carburetion developments.

PROVEN: BEAM is fastest growing LP-Gas carburetion manufacturer serving the Material Handling Industry.

SERVICE: WRITE FOR FREE LITERATURE AND NAME OF YOUR NEAREST DISTRIBUTOR.

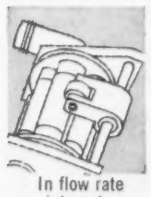
BEAM PRODUCTS MFG. CO.
3040 Rosslyn Street • Los Angeles 65, California
CHapman 5-5791

For more details circle NED-328 D1 on enclosed inquiry slip

Use it as an axle... SEL-LOK spring pin

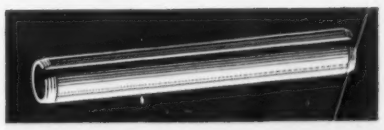
In cigarette lighter

On pulley


In flow rate integrator

- Swift fastening—just drill and drive
- Secure locking—won't work loose despite shock or vibration
- Eliminates costly tapping, reaming, peening, milling
- Can be reused repeatedly
- 101 uses—as keys, cotter pins, axles, hinge pins, wrist pins, stop pins, pivots, etc.

SEL-LOK spring pins are available in carbon and corrosion-resistant steel (from 1/16 x 3/16 through ½ x 4 in.) and beryllium copper (1/16 x 3/16 through ¼ x 3½ in.). See your SPS distributor or write for Bulletin 2670.



INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-329 D1 on enclosed inquiry slip

TEMPERED
SPRING STEEL USERS
PLEASE NOTE ... Roebling can help you to get more blanks from a coil—with tempered cold rolled spring steel. Heat-treating finished parts isn't necessary. Widths up to 8⅜". Thicknessess .005" to .1875", depending on width ordered. Surface to meet your specs, in any finish — blued, strawed or bright, plain or ground. Ask Roebling's Wire and Cold Rolled Steel Products Division, Trenton 2, New Jersey.

ROEBLING
Branch Offices in Principal Cities
John A. Roebling's Sons Division
The Colorado Fuel and Iron Corporation.

▲ For more details circle NED-330 D1 on enclosed inquiry slip ▲

NEW Grades in Laminated Plastics

An Example of
Synthane *You-shaped* Versatility

There are 7 new much-wanted grades of Synthane laminated plastics. Four are flame-retardant—Grades FR-1, FR-2, FR-3, and FR-4. Three are the new high-temperature grades G-3HT, ARF-HT and AA-HT.

These grades add versatility to the variety of Synthane grades offered for your convenience and from which you may now choose with the same confidence you have always had in Synthane as a source of supply.

You-shaped Versatility makes Synthane a Better Buy in Laminates.

SYNTHANE
CORPORATION S OAKS, PENNA.

Synthane Corporation, NE River Rd., Oaks, Pa.
Gentlemen:
Please send me your Engineering Bulletins on:
☐ New Flame-retardant Grades ☐ New High-temperature Grades
Name_____
Address_____
City_____ Zone____ State_____

▲ For more details circle NED-331 D1 on enclosed inquiry slip ▲

HAND FASTENING TOOL
drives studs in masonry and steel

Fasteners are easily driven into concrete, masonry, or light gage steel with the Model HD-100 Nelson hand fastening tool. No predrilling is needed. Tool will drive headed, threaded, and wire loop drivestuds, and the reversible chuck takes a masonry drill for the usual tap and twist procedures for drilling masonry. By using either of two tapered adapters, drill anchors can be hand set in these holes. • **Gregory Industries, Inc.**, 2717 Toledo Ave., Lorain, Ohio.

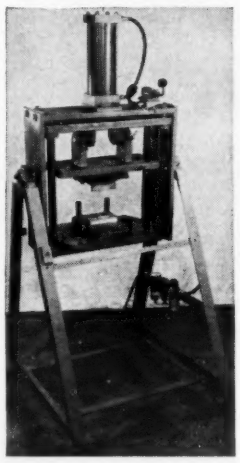
▲ For more details circle NED-332 D1 on enclosed inquiry slip ▲

PLASTIC COVERED ROLLS
prevent product marking or scoring

Metal strip, paper, textiles, plastic film, and other products are handled without marking or scoring over these plastic covered rolls. They are covered with any thickness of any standard NEMA grade plastic. The rolls increase the coefficient of friction, resist chemical attack, withstand heat, and provide dielectric insulation. Sizes with up to 60-in. diameters and 11-ft lengths can be furnished with through or stub shafts to meet any operating requirements. • **Barclay Machine, Inc.**, 784 Euclid St., Salem, Ohio.

▲ For more details circle NED-333 D1 on enclosed inquiry slip ▲

DIE SPOTTING PRESS
½-ton unit spots punches, dies



This ½-ton A W Spotting Press facilitates the spotting of punches and pads on stamping dies, and can also be used for short run subassemblies and prototype work. The complete unit will rotate 360 degrees and can be tilted to any angle and locked for working on the dies. Punch retainer swings forward or backward 90 degrees and locks in position to bring work directly in front of operator. Press has a 12 x 19-in. table and ram that opens to 11 in. Models 100 and 150 are offered, with latter equipped with inching controls for spotting plasters, and plastics. • **AceWeb Tool & Mfg. Co.**, 4400 Stecker Ave., Dearborn, Mich.

▲ For more details circle NED-334 D1 on enclosed inquiry slip ▲

HOW TO CUT ASSEMBLY TIME AND COSTS!

..Ask National! Years of producing the world's lowest cost in-place fasteners assures you of qualified assistance in obtaining fastenings that will cut costs and speed assembly!

THE FOUR BIG ADVANTAGES NATIONAL OFFERS

★ **Engineering Service**
National is Headquarters for fastening problems. By the same token, National is Headquarters for fastening solutions!

★ **Low Equipment Cost**
Buy or lease depending upon the job or capital requirements.

★ **Quality Rivets**
National has the facilities and equipment to give you the right rivets for lowest cost in-place fastening.

★ **Speed of Assembly**
Automatic riveting equipment can be used with excellent speed and results even by unskilled or semi-skilled help!

Send a blueprint or product itself to National for a prompt and dependable answer to your assembly problem.

Bulletin No. 137 describes and lists industrial rivets. Write for your copy.

NATIONAL RIVET & MFG. COMPANY
211 MAIN STREET • WAUPUN, WISCONSIN

▲ For more details circle NED-335 D1 on enclosed inquiry slip ▲

On PINES Model 660 End Finishing Machine

Designed especially for simultaneous inside-outside deburring, chamfering and facing operations on tube, rod and pipe ends, this *high production* machine features:

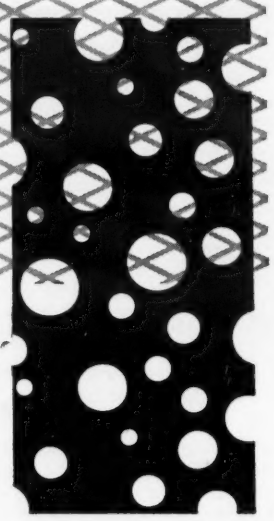
- EASIER OPERATION . . . with simplified controls.
- CLOSE TOLERANCE WORK AND FASTER FEEDS.
- 3-MINUTE CHANGEOVER . . . with interchangeable tooling and fast selection from 8 spindle speeds.
- HIGH PRODUCTION...to 1500 ends an hour in stock to 2" O.D.

BOTH MANUAL AND AIR OPERATED UNITS AVAILABLE
LARGER MACHINES ACCOMMODATE STOCK SIZES TO 5" O.D.

WRITE FOR NEW FREE CATALOG | **PINES** ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery
641 WALNUT • AURORA, ILLINOIS

▲ For more details circle NED-336 D1 on enclosed inquiry slip ▲

NEW decorative patterns



H&K PERFORATED MATERIALS

Passage or control of air, sound, light or fluid . . . decorative concealment . . . component protection . . . eye catching, sales-building beauty—if your product requires any or all of these features, you'll find the design and functional versatility you need in the Harrington & King line of perforated materials.

Send for General Catalog 75 and/or Stock List Brochure

FIND NEAREST H&K AGENT in the 'Yellow Pages'

Listed Under "Perforated Metals"

THE Harrington & King PERFORATING CO. INC.

Chicago Office and Warehouse • *New York Office and Warehouse*
5658 Fillmore St., Chicago 44 — 114 Liberty St., Dept. NED, New York

▲ For more details circle NED-337 D1 on enclosed inquiry slip ▲

TRIAL SAMPLE
will prove you can
CUT VIBRATION and NOISE
with low-cost **MB ISOMODE® PADS**

A pair of shears and a standard package of Isomode Pads...that's all you need to isolate troublesome shock and vibration on as much as 80 tons of machinery.

Made of durable, resilient DuPont neoprene, these ribbed pads support up to 50 lbs. per sq. in.—do an effective job of muffling plant noise and reducing maintenance costs on machines and buildings.

Simply cut to fit machine feet and install. No waste, no fuss, minimum down time. *Send for one-pad trial offer at discount price . . . and free literature.*

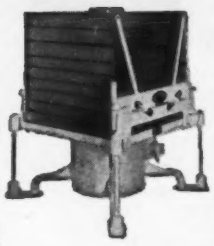
ISOMODE Division
MB ELECTRONICS
A DIVISION OF TEXTRON ELECTRONICS, INC.
1066 State Street, New Haven 11, Conn.

▲ For more details circle NED-338 D1 on enclosed inquiry slip ▲

Sifts huge volumes with Big Savings in Floor Space

RICHMOND SPROUT-WALDRON

Gyro-Whip SIFTER



Write for Bulletin 135-A

Noted for huge output, amazingly compact design, and sanitary operation, these sifters are available in sizes ranging from 3-sieve, floor-mounted models to free-swinging super-sifters with 180 sieves. Stainless steel and wood construction. Can sift from 2 mesh up to 325 mesh. They handle any product that can be mechanically separated. Aspirator tips to air wash graded products can be provided.

Other Sprout-Waldron size classification equipment includes revolving reels, shaking and gyrating screens, air and magnetic separators, and graders. Write for details.

SPROUT-WALDRON
Manufacturing Engineers Since 1866
LOGAN STREET • MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION—MIXING & BLENDING — BULK MATERIALS HANDLING — PELLETING & CUBING — PRODUCT CLASSIFICATION

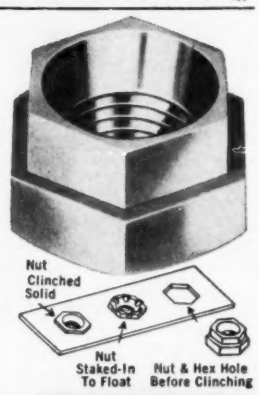
IN/502

For more details circle NED-339 D1 on enclosed inquiry slip

Use the exclusive

GRIPCO® Clinch Nut

for "fixed" fastening or "hard to reach" assemblies



For positive attaching of a threaded medium to thin metals. They are clinched solid for a rigid application, or staked in with a six point staking punch for a floating effect. Available with or without self-locking threads. Gripco Clinch Nuts can be clinched or staked with hydraulic or air equipment. Full details available—write for samples and NEW CATALOG today, or consult the yellow pages in your phone book under "GRIPCO" for the representative nearest you.

127

WITH GRIPCO FASTENERS YOU GET:

Service — 40 Sales representatives all over the country for prompt, fast service.

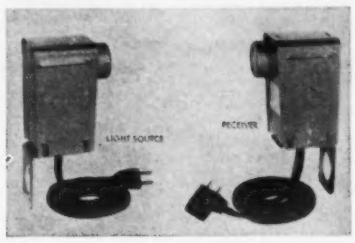
Reliability — Quality controlled by the oldest established lock nut manufacturer in the U.S.

Stock — Large inventories to ensure out of stock delivery on all catalogued items.

GRIP NUT COMPANY
Subsidiary of Heli-Coil Corporation, Danbury, Conn.
106 Maple Ave. • South Whitley, Ind.
Phone: South Whitley 723-5111

For more details circle NED-340 D1 on enclosed inquiry slip

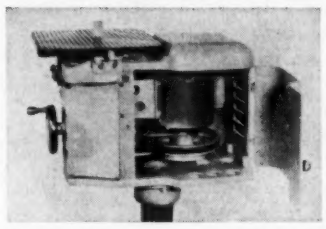
PHOTORELAY SYSTEM
switches 3-amp 120-v load



Model 8PL2 photorelay system mounts quickly on conveyor lines, across doorways, or in any location where control of a counter, motor, or lighting by light beam interruptions is desired. System consists of receiver and matching light source and will switch a 3-amp 120-v resistive load at least two times a second with units up to 20 ft apart. Both units rotate on their respective mounting brackets, and both plug into a standard outlet. Both units have steel dust housing and 8-ft cord with strain relief fitting. They are also available separately. • **Sigma Instruments, Inc.**, 170 Pearl St., South Braintree 85, Mass.

For more details circle NED-342 D1 on enclosed inquiry slip

PROFILE GRINDERS
handle die clearances and contours



Grinding of die clearances, cams, and contours, as well as a variety of finish-grinding work, can be done on these bench or pedestal mounted profile grinders. Machines are equipped with ½-hp, 3450-rpm motors—¾-hp motors are optional—and feature hinged access door, a 12 x 13½-in. serrated table, and an improved four-way tilt U-bracket support. Wheel dresser is attached to underside of table. Single spindle machines are offered with 20,000, 30,000, and 35,000-rpm speeds, whereas two-speed machines have 20,000-30,000 and 20,000-35,000-rpm spindles. • **Rice Pump & Machine Co.**, Belgium, Wis.

For more details circle NED-343 D1 on enclosed inquiry slip

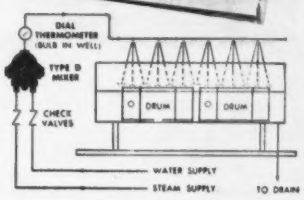
MASONRY SAW BLADE
reinforced with glass fiber mesh

Latest addition to series of Blue Bond break-resistant abrasive blades, the MR 824 features Leno Weave glass fiber reinforcing. In manufacturing, silicon carbide particles are made to flow through layers of the reinforcing glass cloth mesh and protrude beyond its surface. This protects the cloth from side wear. Blade is intended for cutting softer types of materials, such as lightweight block, dry press refractories, and the softer stones. • **Clipper Mfg. Co.**, 2800 Warwick, Kansas City 8, Mo.

For more details circle NED-344 D1 on enclosed inquiry slip

How To Maintain Uniform Process Hot Water

Practical engineering information and easy-to-follow diagrams are yours for the asking. They are included in the Powers *Engineer's Manual, Steam-Water Service.*



Other sections cover:

- Domestic Hot Water
- Hot Water Storage Heaters
- Instantaneous Heat Exchangers
- Heat Exchangers For Cooling
- Fuel Oil Heaters
- Pressure Reducing
- Jacket Water Cooling
- Two-Temperature Hot Water Systems

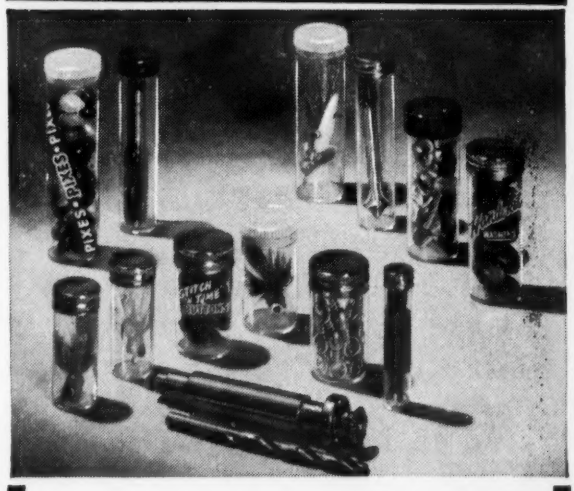
Send for your free manual today!

POWERS CONTROL

THE POWERS REGULATOR CO.
Dept. 461, Skokie 44, Illinois
In Canada:
The Powers Regulator Co. of Canada Ltd.
Downsview, Ontario

For more details circle NED-345 D1 on enclosed inquiry slip

LERMER PLASTIC CONTAINERS



Exceptional printing makes the difference...

Helps make the sale!

Package diamond tools, drills, gauges, ball bearings, jewels, etc.

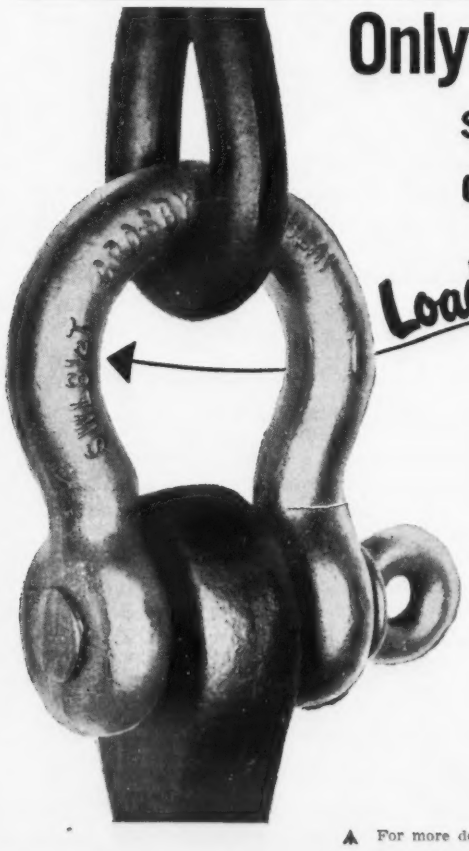
- Printed or decorated up to 4 colors on crystal clear, transparent or opaque colors
- Also available unprinted
- Largest line of RIGID plastic containers
- 1/5 the weight of glass—greatly reducing ever-increasing shipping and handling costs
- Lightweight and shatterproof — with rigid wall protection
- Economical—with customer re-use value

*T. M.

Write for full-color catalog, samples and prices.

LERMER PLASTICS, INC.
514 South Avenue
Garwood, New Jersey
PIONEERS AND SPECIALISTS IN PLASTIC CONTAINERS SINCE 1919

For more details circle NED-346 D1 on enclosed inquiry slip



Only Crosby-Laughlin shackles

say what they do do what they say

Load-Rated®

Guaranteed safe lifting capacity is permanently forged on every Crosby-Laughlin shackle. Size for size, they're fully 50% stronger than other makes!

Look for the RED color — mark of genuine Crosby-Laughlin quality.

CL-952

Free catalog gives application data for 2000 types and sizes of forged fittings for wire rope and chain. Ask your distributor for your copy.

CROSBY LAUGHLIN
FT. WAYNE, INDIANA

Division of AMERICAN HOIST

For more details circle NED-341 D1 on enclosed inquiry slip

READ any surface temperature in 3 seconds with Alnor® PYROCON®

Particularly, in the lower temperature range, the Alnor Pyrocon has extreme accuracy unmatched by any other instrument of its type.

Alnor offers the widest variety of interchangeable tips for reading temperatures on metallic or non-metallic, flat, curved, revolving or stationary surfaces as well as semi fluid materials, plastics, liquids, molten or soft metals, dies, rubber, waxes and many other surface or subsurface materials.

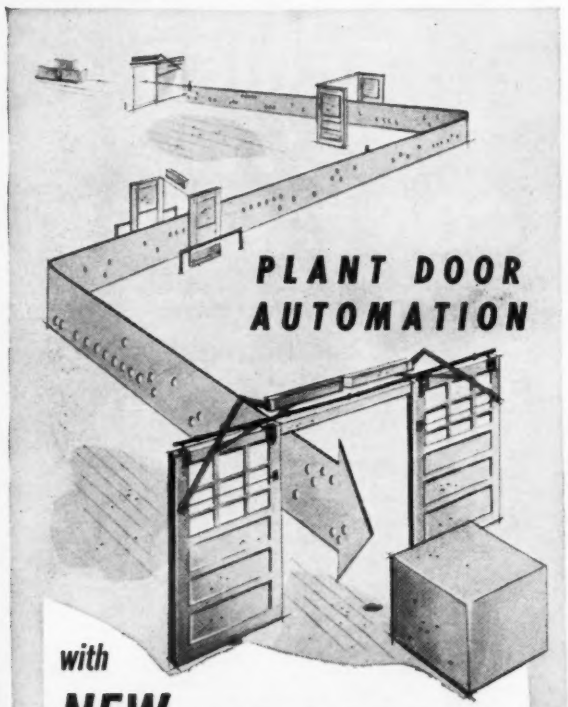
The Pyrocon is a compact, rugged instrument built with the highest standards of accuracy and dependability as well as speed in reading.

Eight models with temperature ranges from 0—300°F. to 0—2000° F.
Write for bulletin 4257.

Alnor INSTRUMENTS

ALNOR INSTRUMENT CO.
Division of
Illinois Testing Laboratories, Inc.
Rm. 529, 420 N. LaSalle St., Chicago 10, Ill.

For more details circle NED-347 D1 on enclosed inquiry slip



with

NEW MAGIC-DOOR MHO OPERATORS

Low-cost investment...
*67% return each year!**

Get maximum productivity at minimum cost by speeding materials flow throughout your plant. You can do it by extending automation to your plant doors that swing, slide or fold, with MAGIC-DOOR MHO Pneumatic Operators. Full powered for both opening and closing, MHO Operators will open and close your doors automatically and bring you BIG returns each year through these benefits: **controlled traffic flow; faster materials handling; reduced door and equipment damage; less spillage and cargo damage; conservation of warm and cool conditioned air, and improved working conditions and employee morale.**

Write for free data sheets and a folder on the MAGIC-DOOR MHO (Materials Handling Operators) line.

**A recent study of* MAGIC-DOOR *equipment in automatic operation of double swinging plant doors revealed a 67% return on the investment each year! Further information on request.*

STANLEY HARDWARE
Division of The Stanley Works
MAGIC-DOOR® SALES
Dept. D, 58 Lake Street, New Britain, Connecticut

STANLEY

REG. U. S. PAT. OFF

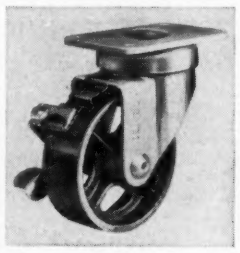
For more details circle NED-348 D1 on enclosed inquiry slip

MINIATURE TRANSFORMERS
42 designs available

Space savings in electronic chassis and module stacking applications are afforded by Bud and Mite miniaturized transistor transformers. Units are encased in drawn steel cans with nickel alloy leads on standard 0.1-in. spacings for easy mounting to printed circuit boards. Total of 42 designs can be supplied in either Bud or Mite styles which are 5/16 and 3/8 in. high, respectively. Frequency response ranges from 200 to 50,000 cycles. • **Decco, Inc.**, 2025 Farrington, Dallas 7, Tex.

For more details circle NED-349 D1 on enclosed inquiry slip

CASTER BRAKE
shoe bears on wheel surface



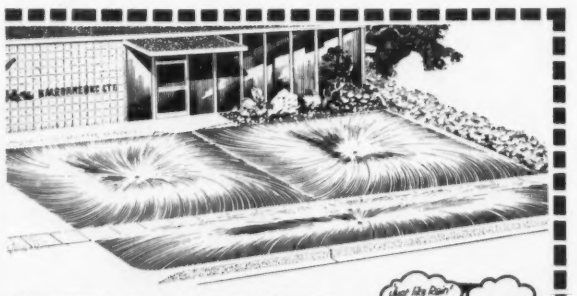
This tread lock brake, designed for Colson Series 2 and 3, or medium duty swivel casters, operates by compression on the wheel surface. A permanently bonded composition brake shoe is located beneath the brake spring. In addition to minimizing stress on wheel mechanisms, the brake shoe assures firm stopping on hard tread wheel surfaces, such as steel, plastic, and hard rubber. Embossed brake pedal extends to the horizontal leg of the caster to increase the brake's over-all strength and braking action. • **Colson Corp.**, 7 S. Dearborn St., Chicago 3, Ill.

For more details circle NED-350 D1 on enclosed inquiry slip

AIRLESS PAINT PUMP
fits on 5-gal container

Airless paint spraying for small and medium production operations is possible with this compact airless pump. The 17-lb unit is offered with lid, 5-gal material container, and handle. All conventional paints are handled by the 26:1 ratio pump, using standard airless gun fitted with medium production caps. It will operate with air pressure produced by a compressor as small as 1-hp. Offered for use with it is a nylon plastic covered, high pressure fluid hose with spiral static wire. Accessories include regular assembly with gage and blow gun for use with nonregulated air, material strainer, and swivel connection between hose and gun. Price is $192.50. • **DeVilbiss Co.**, 300 Phillips Ave., Toledo 1, Ohio.

For more details circle NED-351 D1 on enclosed inquiry slip

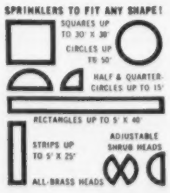


IT'S TRUE! 3 RAIN JETS OUTPERFORM 20 ORDINARY SPRINKLERS. Easy to Install with Rain Jet Pipe and Fittings.

RAIN JET® UNDERGROUND SPRINKLER SYSTEM

Yes, Rain Jet underground sprinklers **do** discharge dependable, large square and rectangular patterns. System shown takes but 3½ hours to install.

• Only knife and shovel needed • Average cost just 3c a sq. ft. including Rain Jet valves, flexible polyethylene pipe, and quick-attach fittings • Hundreds of thousands of satisfied users throughout the U.S. Available Nationally. Write for free "How to Install" brochure.



RAIN JET CORP., 301 S. Flower St., Burbank, California
OTHER RAIN JET PRODUCTS: SHOWER BATH HEADS, FOUNTAIN HEADS, SEDIMENT SEPARATORS

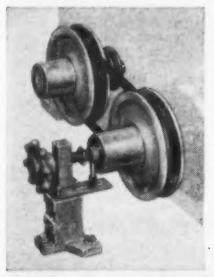
For more details circle NED-352 D1 on enclosed inquiry slip

SPEED SELECTOR **VARIABLE SPEED DRIVES and SHEAVES**

New **ADJUSTABLE MOTOR BASE**

A most efficient and accurate variable speed drive—¾ hp. to 10 hp. Low cost, easily installed, little or no maintenance. Check its many advantages!

Write for Bulletin No. 95



VARI-PITCH SHEAVES

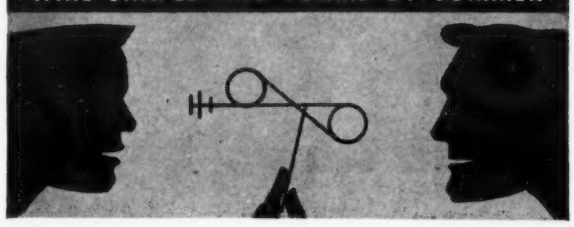
can give your machines wide-range speed control on fixed centers—ratios up to 8:1—capacities from ¼ hp. to 10 hp. Used by many industries in a variety of applications. Rugged, efficient, economical, simple to use.

Write for Bulletin No. 80

SPEED SELECTOR INC.
P.O. BOX 312-N • CHAGRIN FALLS, OHIO

For more details circle NED-353 D1 on enclosed inquiry slip

WIRE SHAPES AND FORMS BY SOMMER



SO HE SAID, He Didn't Care How Much it Costs...

Better Ask Sommer, Anyway

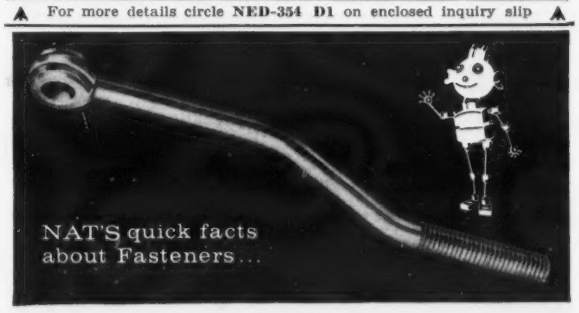
For fast, precise mass-production of complex and simple wire forms ... at low cost to you ... ask Sommer Metalcraft. We can make recommendations and quotations right from your sample, blueprint or drawing ... without delay.

We have the finest facilities and modern equipment available for complete forming, stamping, cut-threading and welding at high volume speeds ... as well as for high speed automatic or barrel plating in cadmium, brite zinc, brite nickel, nickel-chrome and brass. Also baked enamel and mill finishes.

Tell us your needs. Write or Phone today! Look us up in Thomas Register for the full Sommer story.

SOMMER
METALCRAFT CORPORATION
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

For more details circle NED-354 D1 on enclosed inquiry slip



Shining example of big things in **specials** by National

This offset eyebolt, shown about half size, is the happy result of *designing* for *profit,* as National does it ... to turn out cost-saving Specials, of all sizes. Our customer had been buying this part as a forged eye welded to a machined bolt with a cut thread. We cold formed it in one piece, and rolled the thread ... making a stronger, more practical, more efficient part at lower cost. For more facts on how we help cut costs in design and production of Specials, write for our 16-page booklet, "Bring Your Special Problems to National."

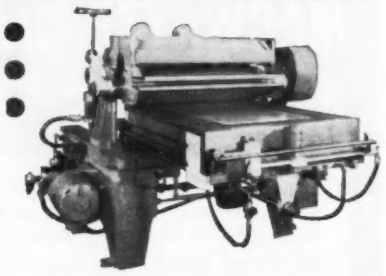
The National Screw & Mfg. Company
Cleveland 4, Ohio
Los Angeles 22, Calif.

For more details circle NED-355 D1 on enclosed inquiry slip

CUSTOMERS APPRECIATE

The Versatility OF CLAIR SURFACE FINISHING MACHINES

plastics ●
metals ●
woods ●



Particularly Practical for General Applications

THIS MACHINE DESIGNED FOR MANY GENERAL APPLICATIONS

One of 11 CLAIR models for finishing wood, metals, plastics -- Model 303 is available in four sizes with numerous optional features. Sensitive floating action for contoured or flat surfaces. Why not confront us with YOUR particular finishing problem!

CLAIR MANUFACTURING CO., Inc., OLEAN, N.Y.

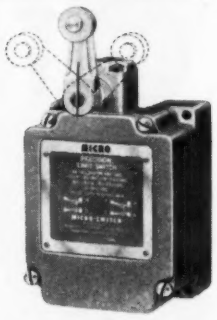
Offering the Most VERSATILE Line of Surface Finishing Machines

For more details circle NED-356 D1 on enclosed inquiry slip

MICRO SWITCH Precision Switches

NEW

"Plug-in Limit" Switch provides Sequence Control



New "301LS" has two basic switches which are operated when the actuating lever is moved clockwise or counterclockwise. Internal adjustments are easily made to provide sequence operation of the two enclosed switches. Sequence control is useful on tool slides to 1) switch from rapid traverse to feed rate and then 2) with the second switch, return the tool to the original position. Sequence control is useful as a positive limit stop where machine damage could occur by a fault in the first switching circuit. Plug-in replacement takes only 20 seconds. See the Yellow Pages for your nearby MICRO SWITCH distributor or write for Data Sheets 168 and 187.

MICRO SWITCH . . . FREEPORT, ILLINOIS
A division of Honeywell
In Canada: Honeywell Controls, Limited, Toronto 17, Ontario

Honeywell
MICRO SWITCH Precision Switches

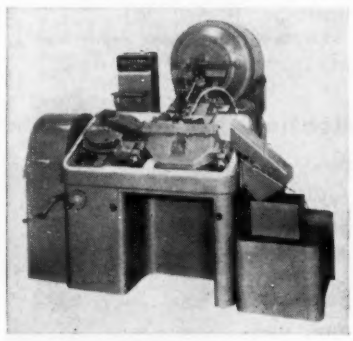
For more details circle NED-357 D1 on enclosed inquiry slip

MINIATURE CAM ASSEMBLIES lock at 0 to 180-degree settings

Miniature adjustable cam assemblies for use in precision timing applications positively lock at any predetermined operational setting from 0 to 180 degrees. Units are machined from Type 303 stainless steel, have a clear passivated finish, and are stocked in 0.1248, 0.1873, and 0.2498-in. bore sizes. Pin or clamp type hub styles are available. ● **PIC Design Corp.**, 477 Atlantic Ave., East Rockaway, L. I., N. Y.

For more details circle NED-359 D1 on enclosed inquiry slip

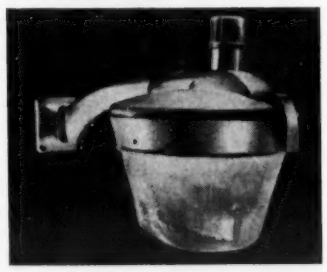
THREAD ROLLER makes 135 to 400 pieces per minute



Thread lengths from 1/8 to 1½ in. can be rolled by the Hartford Model 400-R automatic thread rolling machine. This range can be extended through 3 in. with special dies. Screw capacity is from No. 2 to 10 on this model, or No. 0 to 10 on the companion Model 400-M. Hopper-fed machine is infinitely adjustable to make 135 to 400 pieces per minute. Economical flat dies speed the setup. Straight line feed rails and a simple mechanical feed rail vibrator for uninterrupted blank feeding are featured, along with a separate coolant system. ● **Roy Machinery & Sales, Inc.**, New Britain Avenue, Farmington, Conn.

For more details circle NED-360 D1 on enclosed inquiry slip

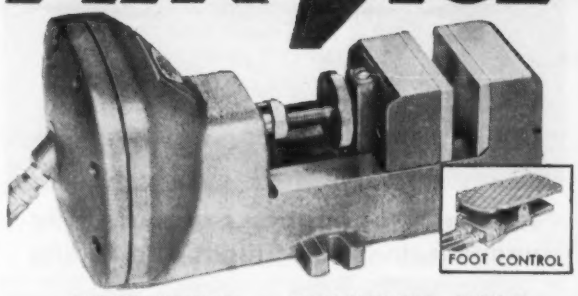
OUTDOOR LUMINAIRE turns on and off automatically



Controlled by any standard NEMA photocell, this No. 442 outdoor luminaire will turn itself on as darkness approaches, and off when daylight starts. The Endural glass bowl has optical prisms on inside and outside surfaces so spaced as to assure uniform illumination over a broad area and to avoid glare. Fixture parts are corrosion resistant stainless steel and aluminum. It is suited for mounting on poles or walls with standard brackets. It is easily serviced and relamped. ● **Holophane Co.**, 342 Madison Ave., New York 17, N. Y.

For more details circle NED-361 D1 on enclosed inquiry slip

Speedy AIR VISE



HIGH SPEED • POWERFUL GRIP

New, improved model speeds up all repeat operations—*milling, drilling, tapping, punching, bending, riveting.* Both hands left free to produce more! Light squeeze to 2250 pounds pressure! Extra thick jaws for attaching jigs. Jaws open to 3-inches; 1/16" to 5/8" maximum travel. Complete with foot control, air hose and fittings..... **$44.00**

SPEEDY AIR REGULATOR
Regulates pressures 0 to 140 lbs. No. 622 $7.25

SPEEDY AIR FILTER
Assures clean, oil-free air. No. 140 $4.00
Slightly higher West Coast

SPEEDY UNIT
Production spray unit with Ext. Mix Gun. No. 705 $26.50

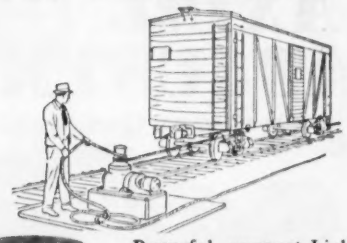
Order from Your Supplier or Write for Air Tool Catalog
W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35

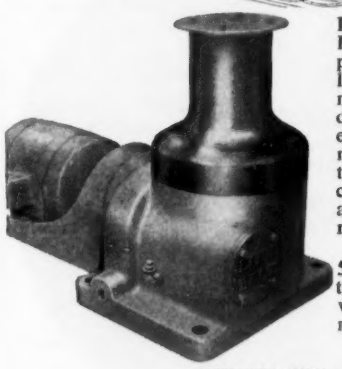
AIR TOOLS • AIR VISES • AIR REGULATORS • FILTERS • COMPRESSORS

For more details circle NED-363 D1 on enclosed inquiry slip

DOWN GOES DEMURRAGE

...with LINK-BELT car spotters





Powerful, compact Link-Belt car spotters speed positioning of cars for loading and unloading . . . minimize switching and demurrage costs. They put enough power in one man's hands to move 300 tons or six loaded freight cars. And operating costs are low, maintenance negligible.

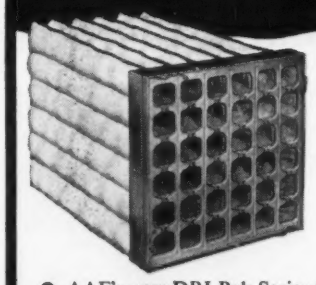
Available *from stock* in 5- and 10-hp sizes, stationary and portable types, with integral or separate motors. 15,235

SEND FOR NEW BOOK 2892

LINK-BELT
CAR SPOTTERS AND CAR PULLERS
LINK-BELT COMPANY: Prudential Plaza, Chicago 1, Ill.

For more details circle NED-364 D1 on enclosed inquiry slip

What's new in AAF AIR FILTERS...



DRI-Pak SERIES 2000
high-efficiency unit filter

● AAF's new DRI-Pak Series 2000 filter combines high efficiency, low resistance, compactness and large dust-holding capacity to a degree unequaled by any other dry-type unit filter.

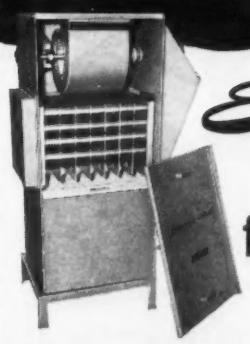
There are 95 square feet of filtering media in one unit yet an 8-inch-deep carton holds *two* filters. The secret is in the DRI-Pak's unique "windsock" operation. The "tubes" of the media inflate to a 36-inch depth when the system is in operation but collapse when the system is shut down.

For complete product information, call your local AAF representative or write us direct for Bulletin No. 228. Address Mr. Robert Moore, American Air Filter Company, Inc., 391 Central Ave., Louisville, Kentucky.

American Air Filter
BETTER AIR IS OUR BUSINESS

For more details circle NED-358 D1 on enclosed inquiry slip

What's new in AAF DUST COLLECTORS...



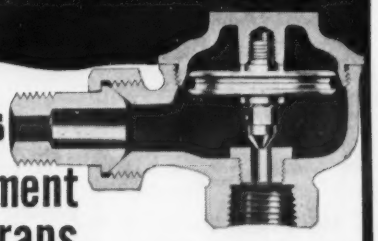
Electro-MIST
oil mist and fume collector

● The AAF Electro-MIST is a combined exhauster and electronic collector designed especially for the elimination of oil mist, smoke and fumes from operations such as high-speed cutting and grinding. Completely self-contained and self-cleaning in operation. High efficiency permits return of clean air directly to workroom. Sizes from 1,000 to 3,000 cfm. Write for Bulletin 251. Address: Mr. Robert Moore, American Air Filter Company, Inc., 391 Central Ave., Louisville, Kentucky.

American Air Filter
BETTER AIR IS OUR BUSINESS

For more details circle NED-362 D1 on enclosed inquiry slip

What's new in AAF STEAM SPECIALTIES



illinois replacement traps

Here are 3 ways these *low cost, guaranteed* traps save money in your heating system. They save:

● **INSTALLATION COSTS**—They are *complete* traps tailored to fit your present lock nut and tail piece. Fast, simple to install.

● **FUEL COSTS**—They eliminate leaky, fuel-wasting traps . . . restore "like-new" efficiency to radiators.

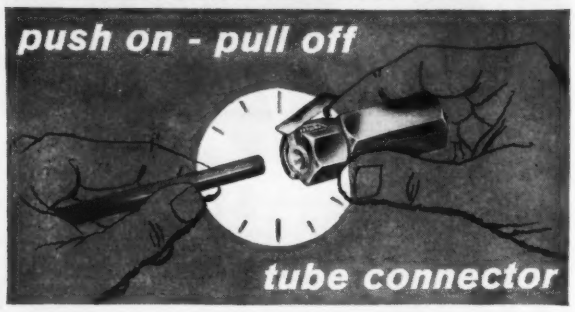
● **MAINTENANCE COSTS**—Every trap is radiator-tested to assure years of reliable operation. Some Illinois traps have been in service *50 years and more!*

Send for more information on Illinois Replacement Traps. Write: Illinois Division, American Air Filter Company, 391 Central Avenue, Louisville 8, Kentucky.

American Air Filter
BETTER AIR IS OUR BUSINESS

For more details circle NED-365 D1 on enclosed inquiry slip

AUTOMATIC LOCKING



Instantly connects pressure and vacuum lines to straight end tubing

Simply push the Connector over end of tubing and press to "stop" position. This **AUTOMATICALLY** locks tubing into place for a leak-proof seal. To unlock, press Thumb Pad and pull Connector off. For any pressure to 1000 psi; vacuum up to 25 microns. Rugged, simple, fool-proof, it saves time and labor. One end tapped for inlet connection. Stock sizes for ⅛" to 1½" OD tubing. Other sizes to order. Write for Catalog and prices.

for AIR WATER, STEAM, FREON, etc.

MECHANICAL PRODUCTS CORPORATION
1724 West Hubbard Street, Chicago 22, Illinois

For more details circle NED-366 D1 on enclosed inquiry slip

How "AXIAL ADJUSTMENT" Reduces Costs, Maintenance, and Wear

"Axial adjustment" is an important benefit on all heavy-duty DEMING sump, end suction and turbine pumps. It allows you to merely adjust the rotary assembly and compensate for wear. Better performance immediately. No new part needed. Call your DEMING distributor or write today for full information.

The DEMING Co.
406 BROADWAY • SALEM, OHIO

For more details circle NED-367 D1 on enclosed inquiry slip

"If you can't stand the heat—stay out of the kitchen"

MEYERCORD HEAT RESISTANT LINE OF DECAL TRANSFERS

H-R Heat Resistant

H-R-T Heat Resistant Tubes

S-H-R Sustained Heat Resistant

H-H-R High Heat Resistant

Ordinary Decals, when used as trademarks or operating instructions on products exposed to heat range of 150°F to 220°F will discolor, deteriorate and disappear.

Meyercord's exclusive H-R line of transfers—Heat-Resistant—will withstand operating temperatures up to 1,000°F. Four different types of H-R transfers are available for the job.

Write for Technical Bulletin No. 600. For Heat-Resistant markings specify Meyercord's H-R line.

Write today . . . on company letterhead, please.

the MEYERCORD co.
Dept. E-316—5323 W. Lake Street, Chicago 44, Illinois

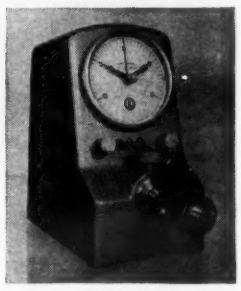
For more details circle NED-368 D1 on enclosed inquiry slip

HYDRAULIC POWER UNITS pressures range up to 2500 psi

Self-contained Junior series of hydraulic power units is designed for lift truck, clamping mechanism, gate valve, and other industrial machinery applications. Units are made in pressure ratings to 2500 psi and flow rates from 0.6 to 4.2 gpm. Base of unit forms the oil reservoir, whereas motor, pump, filler and breather assembly, and pressure and return connection are mounted as an assembly on a cast aluminum base plate that forms the reservoir cover. Assembly is lifted for inspection and cleaning by removing four bolts. • **Racine Hydraulics & Machinery, Inc.**, 2000 Albert St., Racine, Wis.

For more details circle NED-369 D1 on enclosed inquiry slip

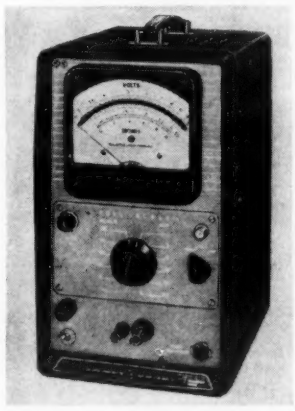
AIR GAGES have magnifications to 28,000:1



Standard air gaging stands and control units with adjustable magnification from 35:1 to 28,000:1 comprise line of air gages. Line provides choice of 26 stock dials. Also available are air plugs, air rings, fixtures, and automatic in-process and post-process special gages. • **Standard Gage Co.**, 70 Parker Ave., Poughkeepsie, N. Y.

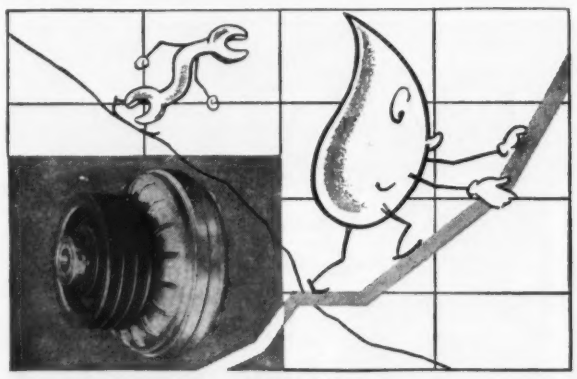
For more details circle NED-370 D1 on enclosed inquiry slip

ELECTRONIC VOLTMETER has range of 300 mu v to 300 v



Accurate measurement of voltage in the range of 300 mu v to 300 v at frequencies from 10 cps to 11 mc is possible with with this Model 317 electronic voltmeter. It is also usable as a null detector from 5 cps to 30 mc. As a calibrated amplifier, it provides a stable gain up to 60 db with a frequency response of ±1 db from 6 cps to 11 mc. The 5-in. mirror-backed meter scale assures accurate reading. Portable and rack models are available for operation on 115/230 v, 50 to 400 cps, ac. Price is $445 and $50 for the probe. • **Ballantine Laboratories, Inc.**, Fanney Road, Boonton, N. J.

For more details circle NED-371 D1 on enclosed inquiry slip



performance goes up . . .
maintenance goes down . . .
when the drive is through fluid!

There is no metal-to-metal contact to transmit destructive shocks and vibrations when you use Twin Disc Hydro-Sheave® Drives. There are other "plus" values, too: they provide "fluid drive" in a package that slips right over the motor shaft . . . they reduce motor starting demands . . . protect against overloads and shock loads . . . prevent stalling and motor burn-outs . . . permit smallest size motors . . . provide smooth, fast acceleration. Hydro-Sheave Drives are available at all nominal motor speeds . . . to 50 hp. Fluid Couplings: to 850 hp.

TWIN DISC *Fluid Couplings*

TWIN DISC CLUTCH CO. • Racine, Wisconsin

For more details circle NED-372 D1 on enclosed inquiry slip

Precision-made, low-cost

MACWHYTE CABLE ASSEMBLIES

"Safe-Lock" wire rope assemblies are made in a wide range of sizes for machine parts, controls, and operating devices. They are fabricated to the exact size and length you need, with fittings on one end or both ends—ready to use for safe, easy, quick, low-cost installation. Ask for catalog 5601. Macwhyte Wire Rope Company, Kenosha, Wis., U.S.A.

187

MACWHYTE Wire Rope COMPANY

For more details circle NED-373 D1 on enclosed inquiry slip

ENGINEERING -70°F TAPES +250°F

Stronger — lasts longer!

- Pressure sensitive heat and cold resistant
- Resist acids, alkalies, moisture, etc.
- Ideal for oxidation, radiation, testing, laboratory, electronics, etc.
- Available in plain or custom preprinted labels.

Write for complete literature and the name of your nearest TIME representative.

PROFESSIONAL TAPE CO., INC.
359-C Burlington Ave. • Riverside, Ill.

For more details circle NED-374 D1 on enclosed inquiry slip

FLEXIBLE HEAT

with new flexible

SILICONE RUBBER HEATERS

Light weight, flexible, only .050" thick.
Teflon leads standard, other types on request.
Can be rated at any wattage or voltage.
Varied heat distribution pattern possible. They are water resistant and easily applied to any plane surface.

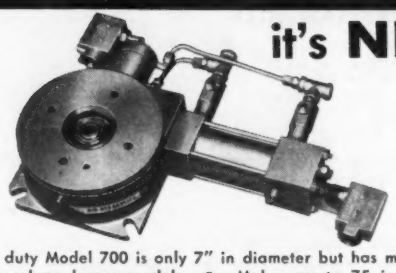
Write For Bulletin C-102.

WATLOW ELECTRIC MFG. CO.
1374 Ferguson Ave. • St. Louis 14, Mo.
Cartridge • Strip • Immersion • Tubular
Cylindrical Electrical Heating Units

For more details circle NED-375 D1 on enclosed inquiry slip

LOW COST 7" INDEX TABLE

it's NEW



The heavy duty Model 700 is only 7" in diameter but has most of the features found on larger models • Makes up to 75 indexes per minute • Handles maximum work load of 100 lbs. • Maximum power stroke is 3 times line pressure • Operates on pressures from 60 to 175 p.s.i. • Clockwise rotation with either 4, 6, 8 or 12 stations standard • Others up to 24 stations and counter-clockwise rotation, to order • Bolt larger sub-plate (up to 14" dia.) to ground steel table for larger work area • Positive index—no override • Adjustable cushion and speed control • Each table checked for guaranteed accuracy of index (± .0015"), concentricity and parallelism.

WRITE NOW FOR FREE CATALOG AND PRICE INFO.

AIR-HYDRAULICS INCORPORATED

231 HUPP AVE.
JACKSON, MICHIGAN

For more details circle NED-376 D1 on enclosed inquiry slip

Check these prices on Gould Type M

Solenoid Valves

TYPICAL USER NET PRICES
F. O. B. FACTORY

SIZE	1 to 5	100 to 499
½"	$15.40	$11.15
⅜"	18.50	13.60
1"	24.25	18.50
1½"	48.00	42.40

2-Way • General Service
Packless • Normally Closed

Sizes ⅜" to 3" • Temperatures to 250° • Pressures to 400 psi • Molded epoxy resin water-proof coils • Unbreakable piston rings • No damaging hammer • Easy-off "O" ring bonnet construction in sizes ⅜" thru ¾" • High temp coils and explosion proof housings available. Immediate delivery. Ask for Bulletin 600-M.

SOME OTHER TYPES OF GOULD SOLENOID VALVES

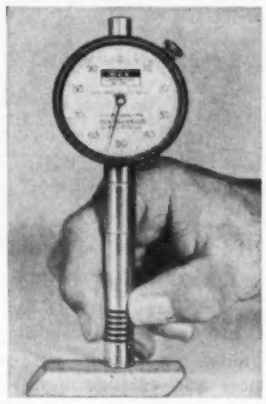
D—Adjustable flow control, adjustable cushioning control to reduce shock, manual opening. **HV**—Four independent controls—opening, closing, flow, manual opening. **G**—Stainless, fractional ports, pressures to 1,000 psi. **GX**—All 316 stainless, fractional ports. **K**—Stainless, ½" to 2". **MDW**—Direct acting. NOTE: Special assemblies for exacting requirements.

J. D. GOULD CO. • 4707 MASSACHUSETTS AVE. • INDIANAPOLIS 18, IND.

GOULD SOLENOID VALVES VELVETROL

For more details circle NED-377 D1 on enclosed inquiry slip

RUBBER HARDNESS GAGE
uses Durometer A scale



Hardness of rubber and other elastomers is measured instantly by holding the Model 1600 hardness gage in a vertical position and pressing down until its entire foot encounters the specimen. Reading is given to ±½ point in the Durometer A scale. Gage has a 360-degree dial on which creep readings are easily noted by hand action. Recalibration of the 8-oz instrument is not required. • **Rex Gauge Co.**, Box 46, Glenview, Ill.

For more details circle NED-379 D1 on enclosed inquiry slip

PNEUMATIC TAPPER
light duty unit for sheet metal use

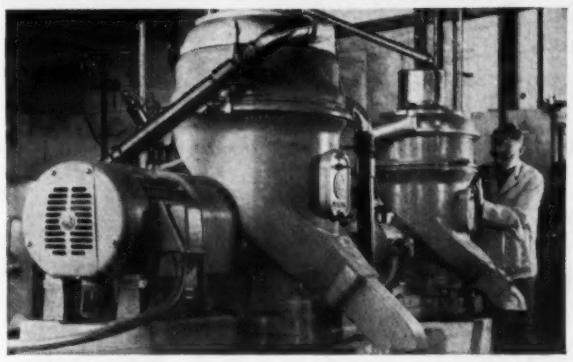
Operating at 400 rpm, the spindle of the 3-lb Model 400-T pneumatic tapper normally runs in a forward or right-hand direction. Reversal is by squeezing the reverse button in the handle of the pistol type tool. Air power is controlled by an on-off valve in the handle. Designed for light tapping work in sheet metal, the tool has a capacity of No. 10 to 5/16 in. USC or USF. It best uses two-flute gun taps. • **Airetool Mfg. Co.**, 328 S. Center St., Springfield, Ohio.

For more details circle NED-380 D1 on enclosed inquiry slip

MINIATURIZED CONTACTORS
for special industrial applications

Though designed for aircraft and missile use, Model DH-7B contactor is suited for special industrial application. It is a miniaturized three-pole double-throw relay rated 50 amp at 115/208 v ac, is hermetically sealed, measures 2⅜-in. diameter by 2⅞ in. high, and weighs 12 oz. It will operate in ambients of −65 to 120° C, withstands 20 g to 2000 cps vibration, and is usable at altitudes to 80,000 ft. Other models are available with contact forms from single-pole single-throw to six-pole double-throw with current ratings of 5 to 50 amp and coil/contacts of any reasonable alternating or direct current ratings. • **Hartman Electrical Mfg. Co.**, 175 N. Diamond St., Mansfield, Ohio.

For more details circle NED-381 D1 on enclosed inquiry slip



Do you have these separating problems?

• Solid weighs only slightly more than liquid • Over 99% of solids must be removed • Liquids contain fine, slimy or abrasive particles • Solids must be concentrated to 100% by volume • Liquids are viscous, aerated or mixed

You can handle all of these difficult separations with one centrifuge—the Pfaudler Titan Superjector.

The Titan gives you a settling power of 7800 times gravity; provision for discharging particle sizes up to ⅛" diameter; and a three-jet hydraulic system that opens and closes discharge slots in 1/10 of a second and then seals the bowl.

Test your product separations in our lab, or in your own plant with a Pfaudler field evaluation unit.

***For Free Bulletin 946 write to our* Pfaudler Division, Dept. NED-41, Rochester 3, New York.**

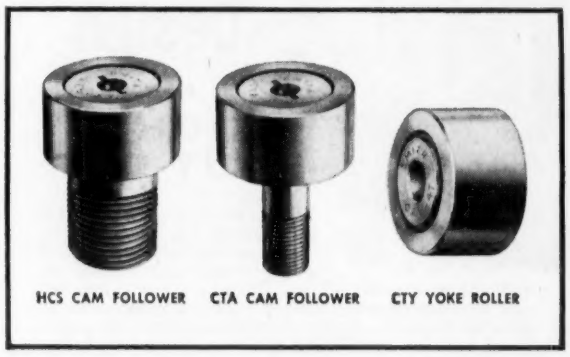
PFAUDLER PERMUTIT INC.

Specialists in FLUIDICS . . . the science of fluid processes

For more details circle NED-382 D1 on enclosed inquiry slip

SMITH cam followers and yoke rollers

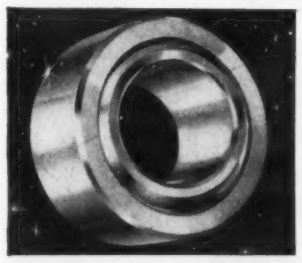
engineered to precise standards



HCS CAM FOLLOWER CTA CAM FOLLOWER CTY YOKE ROLLER

Each component of every Smith Cam Follower and Yoke Roller is carefully engineered, machined and finished to the most exacting standards and dimensions. As a result, Smith Cam Followers and Yoke Rollers perform with uniform reliability.

Standard Smith "CTA" (interchangeable) or "HCS" (High Capacity Stud) Cam Followers and "CTY" Yoke Rollers will give you outstanding performance with long, trouble-free life.



Smith/Align Bearings are new self-aligning bearings that are specifically designed for applications which are extremely critical — where dependable performance is vital and failure too costly to tolerate. Smith/Align Bearings will function smoothly, without bind, yet with as little as .0002" clearance between ring and ball.

Better distributors throughout the country stock and sell Smith Cam Followers and Yoke Rollers.

Write for the handy, quick reference data sheets on Smith Cam Followers and Yoke Rollers and for full information on Smith/Align Bearings.

Smith Bearing Division
Accurate Bushing Company
443 North Avenue, Garwood, New Jersey

Manufacturers of: Needle Bearings, Cam Followers, Yoke Rollers, Jet Engine After Burner Rollers and Bearing Assemblies, Airframe Standard and Special Bearings, High Temperature and Severe Wear Precision Parts.

For more details circle NED-383 D1 on enclosed inquiry slip

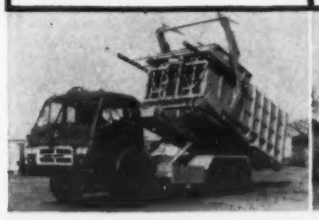
FOR THE ULTIMATE IN MATERIALS HANDLING

DINOSAUR+DINOMASTER

DINOSAUR
Handles Containers 8 through 40 cu. yds. and over.

DINOMASTER
Provides "No-Container-Haul" Service for one through eight yard Dumpmaster Containers

DINOSAUR picks up the DINOMASTER.



DINOMASTER engages loaded container and lifts it overhead.

Contents fall into packer body where 85,000 lb. thrust packer plate compacts material.

Write today for FREE Brochure

Part of the DEMPSTER DUMPSTER® SYSTEMS

DEMPSTER BROTHERS Inc.
Dept. NE-4 Knoxville 17, Tennessee

For more details circle NED-378 D1 on enclosed inquiry slip

A new COMPACT airless spraying outfit

...an "extra" man for odd jobs around the shop

The new compact Binks Airless Spraying outfit is small enough to carry anywhere in the plant . . . large enough for a variety of maintenance jobs. Maximum spray coverage with minimum overspray cuts materials costs.

To get an "extra" maintenance man for your plant . . . see your Binks distributor today. Or, write for full details. Ask for Bulletin A98-11.

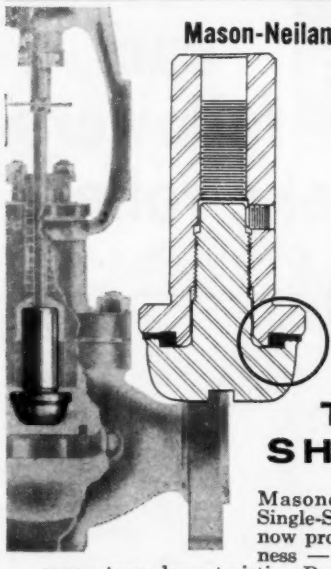
Binks Manufacturing Company, 3118-B Carroll Ave., Chicago 12, Ill.

REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES • SEE YOUR CLASSIFIED DIRECTORY

1168

Binks Everything for spray painting

For more details circle NED-384 D1 on enclosed inquiry slip



Mason-Neilan 20,000 Series

New Soft-Seat Design FOR TIGHT SHUT-OFF

Masoneilan high capacity Single-Seated Control Valves now provide soft seat tightness — without sacrifice of percentage characteristics. Permits static pressures and pressure drops to 500 psi. Soft seat inserts available in Buna-N, Teflon and Glass-filled Teflon to meet varying conditions. Soft seat plugs available in sizes from 1" to 10". See your Mason-Neilan representative or write direct.

Products that Work for Your Profit

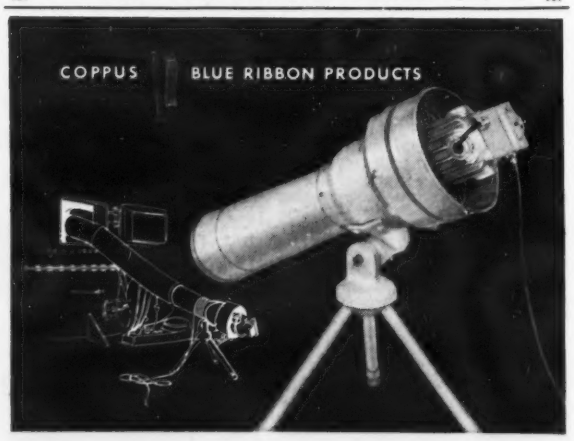
MASON-NEILAN

Division of Worthington Corporation

69 Nahatan St., Norwood, Massachusetts

MN1-3

For more details circle NED-385 D1 on enclosed inquiry slip



COPPUS "Blue Ribbon" Vano Ventilators are portable and easily adaptable to practically any "fresh-air" requirement in industry. Mail coupon below for facts.

COPPUS ENGINEERING CORP.
404 Park Avenue, Worcester 10, Mass.

- ☐ in tanks, tank cars
- ☐ in underground manholes
- ☐ for exhausting welding fumes
- ☐ on boiler repair jobs
- ☐ for general man cooling
- ☐ to stir up stagnant air wherever men are working or material is drying

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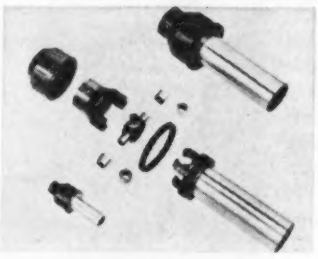
Company .....
Address .....
City .....

COPPUS BLOWERS

For more details circle NED-386 D1 on enclosed inquiry slip

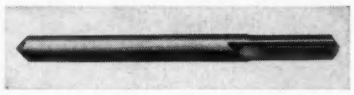
FLOATING TOOL HOLDER
compensates for misalignment



Shank sizes from 5/8 to 1½ in. to fit any standard single or multiple spindle screw machine or turret lathe are available in the Aline-X floating tool holder. It compensates for inaccuracies of misalignment from spindles to workpiece on such machines, especially when used for precision reaming or boring. Holder also eliminates bellmouthing, over-sizing, and scoring. The nine-part holder has a single adjustment point, holds high speed steel and carbide tools, and its design prevents chatter and vibration. • **Allied Metal Products, Inc.,** 1082 Farmington Ave., Kensington, Conn.

For more details circle NED-387 D1 on enclosed inquiry slip

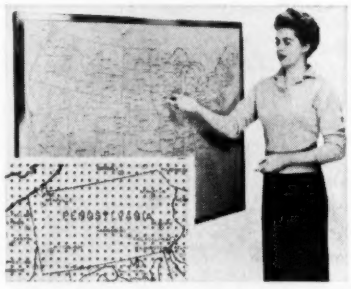
SOLID CARBIDE DRILLS
for drilling hardened materials



Twenty - nine fractional sizes graduated in 1/64-in. increments from 1/16 to ½ in. are available in Hi-Ten Series 1806 solid carbide drills. They are suited for drilling hardened steels up to Rockwell C-65 and for applications on exotic metals and high tensile and high temperature alloys through Rockwell C-56. Drills have straight shanks, two straight flutes, and are right-hand cutting. Rapid stock removal to close tolerances is possible. • **Atrax Co.,** 240 Day St., Newington 11, Conn.

For more details circle NED-388 D1 on enclosed inquiry slip

PERFORATED STEEL U.S. MAP
for charting sales, marketing plans



More than 300 key cities are shown on this outline map of the United States which is imprinted on a 36 x 48-in. perforated 16-gage steel panel. The Working - Map has a scratchproof, washable green finish on which can be used marking inks, tapes, magnets, and pressure-sensitive materials for charting sales territories, marketing programs, and organizational distribution. Perforations on ¼-in. centers and heavy asbestos backing allow insertion of pins or colored fractional-watt lights. Panel has a 1-in. plated steel frame and is furnished with mounting hooks and chain, as well as numerals, figures, and symbols. • **Power Dispatchers Equipment Co.,** 217 N. Broadway, Milwaukee 2, Wis.

For more details circle NED-389 D1 on enclosed inquiry slip

FAST FACTS

ON BLAW-KNOX GRATING

A NEW DATA FILE for fast information on designs and specifications of Blaw-Knox Grating and Stair Treads

The whole story compacted into eight pages for quick reference ■ New specifications ■ Latest installation methods ■ New fabricating methods

To get your FREE copy, write for Bulletin 2581

Blaw-Knox Equipment Division
Pittsburgh 38, Pennsylvania

BLAW-KNOX *GRATING*

For more details circle NED-390 D1 on enclosed inquiry slip

SAVE ON

SAW SHARPENING

If it costs you $25.00 or more a month, let your monthly sharpening bill pay for a FOLEY SAW FILER.

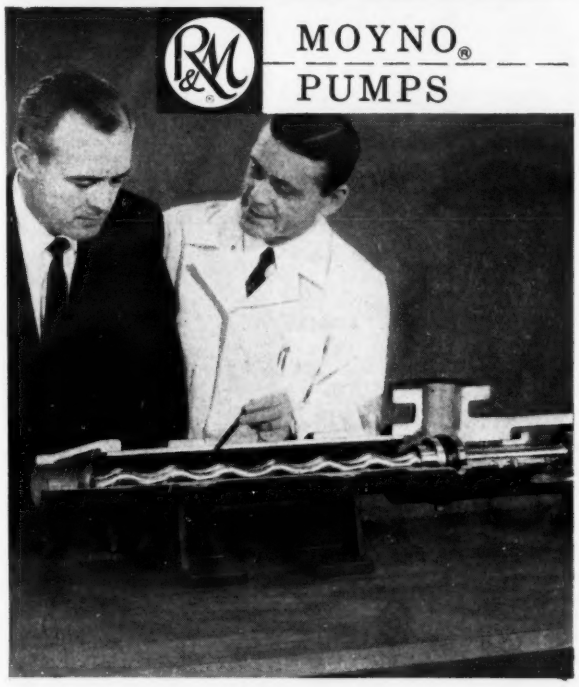
What is your monthly saw sharpening bill? Are you paying $25.00 a month or more, or sharpening saws by hand, or probably using them when too dull? If so, a Foley Saw Filer will soon pay for itself in your plant. With the Model 200 Foley Automatic Saw Filer you can sharpen both "combination" and crosscut circular saws, band saws and hand saws. No experience needed to turn out precision sharpening with a Foley. Increase your sawing production, improve your work quality, prolong the life of your saws—and let your monthly sharpening bill pay for the Foley.

30-DAY TRIAL OFFER

You may try the new Model 200 Foley Saw Filer in your own shop for 30 days. Write for literature and details of 30-day trial offer.

FOLEY MFG. CO.
3323 N. E. 5th STREET
MINNEAPOLIS 18, MINN.

For more details circle NED-391 D1 on enclosed inquiry slip



Let MOYNO'S® *"Progressing Cavities"* Cut Pump Maintenance Costs!

MOYNO's unique *"progressing cavity"* principle cuts pump maintenance costs because material being moved contacts only one moving element. MOYNOS are constructed to stoutly resist corrosion and abrasion. As shown in the cutaway model above, MOYNO's screw-like rotor revolves in a double-threaded stator forming *"progressing cavities"* that move material smoothly along, without foaming, aerating or crushing.

Typical materials pumped include non-pourable pastes, abrasive slurries, chemicals, foods, acids, even suspended solids up to one inch in size. Many materials now successfully pumped by MOYNO were once considered "unpumpable."

Capacities are available up to 500 gpm and pressures up to 1000 psi. Off-the-shelf replacement parts are always immediately available. Write today for Bulletin 30—NE

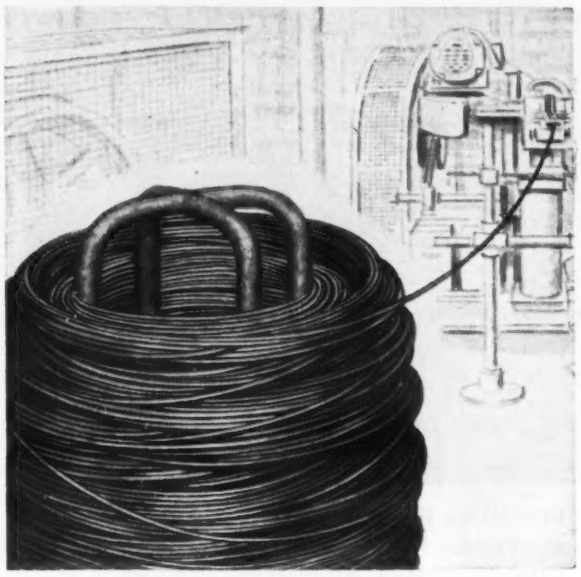
ROBBINS & MYERS, INC.

motors, household fans, Propellair industrial fans, hoists, Moyno industrial pumps

SPRINGFIELD, OHIO • BRANTFORD, ONTARIO

capacities to 500 gpm; pressures to 1000 psi

For more details circle NED-392 D1 on enclosed inquiry slip

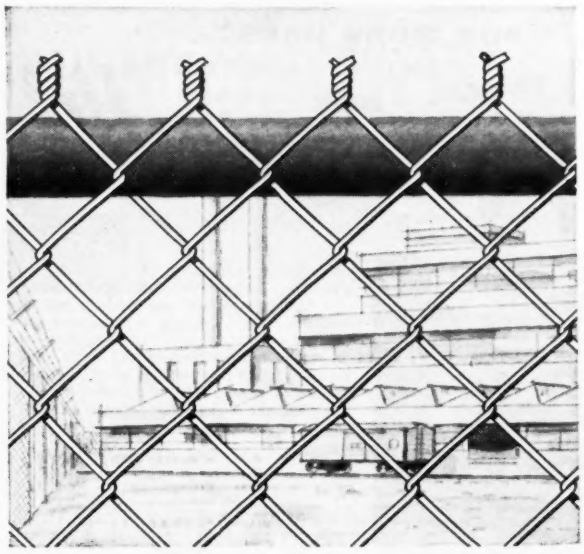


7504-REV.

CF&I WIRE
Packaged for your production

Reduce downtime and increase production efficiency with CF&I Wire, in all sizes, types and finishes, packaged in extra long lengths. Write for *Wire Bulletin W-211 on Spiders.*

▲ For more details circle **NED-393 D1** on enclosed inquiry slip ▲



REALOCK...
The fence that says stop

Your insurance against pilferage, vandalism, arson . . . long-lasting Realock Fences. Made of galvanized steel or aluminum with or without barbed wire tops. All types described in *Catalog F-915.* 7502

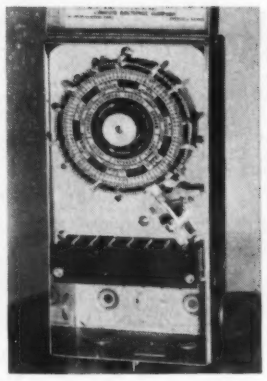
▲ For more details circle **NED-394 D1** on enclosed inquiry slip ▲

CF&I Process-Conveying Belts
Heat and corrosion resistant

CF&I-Wissco Woven Wire Belts are made in a wide range of metals and specifications, for either friction or chain edge drive. Open-Mesh construction allows uniform circulation of air, gases or liquids. Write for Catalogs MS-606 and 607. 7671

▲ For more details circle **NED-395 D1** on enclosed inquiry slip ▲

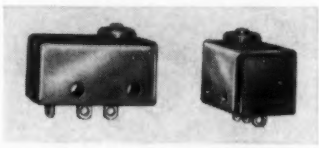
TIME SWITCH
has spring drive for power failure



Particularly suited for timing operations on equipment where electric power failure would prove disastrous, this automatic time switch has a spring-driven 24-hr independent power reserve. This takes over immediately when electric power fails. Mechanism is available in the 24-hr and 7-day time switches. Change from electric power to spring and vice versa is automatic, and spring rewinds when power is restored. • **Lumenite Electronic Co.,** 407 S. Dearborn St., Chicago 5, Ill.

▲ For more details circle **NED-396 D1** on enclosed inquiry slip ▲

HERMETIC CONTROL SWITCH
rated up to 7.5 amp at 125/250 v ac



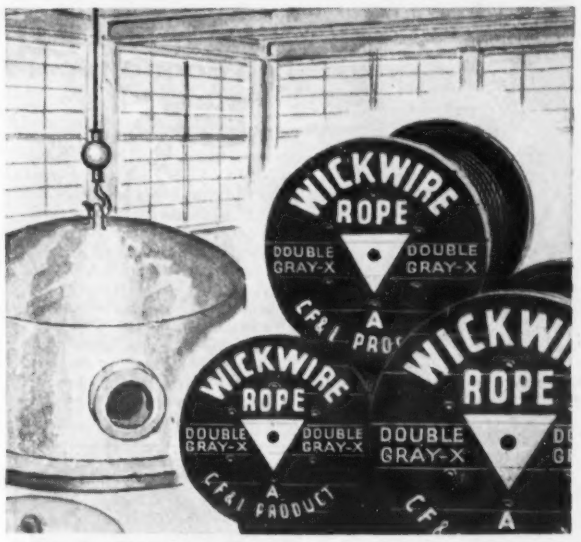
Steel case completely seals the H16-200 miniature control switch against all contaminants, atmospheric conditions, and altitude changes. The compact T-switch is a single-pole double-throw unit rated 7.5 amp at 125/250 v ac, inductive and resistive load. It measures only 0.787 in. long, weighs 7 grams, and has 0.012-in. pretravel, 0.003-in. movement differential, and operating force of 550 grams minimum. • **Controls Co. of America,** Control Switch Div., 4218 W. Lake St., Chicago 24, Ill.

▲ For more details circle **NED-397 D1** on enclosed inquiry slip ▲

HYDRAULIC POWER PUMP
two-speed unit develops 10,000 psi

High volume, low pressure, rapid approach ram action and automatic changeover to low volume, high pressure drive are incorporated in the No. 1729 portable two-speed hydraulic power pump unit. It weighs only 14 lb. Approximate pumping capacity is 80 cu in. at 30 psi, 20 cu in. at 100 psi, and 4 cu in. at 10,000 psi. The pump develops 10,000 psi intermittent and 6000 psi continuous pressures for powering knockout punch drivers, rams, jacks, pullers, and other hydraulic tools or systems. Unit is driven by a built-in 115-v ac-dc motor and has a two-way control valve. Model 1729-PO with pendant electrical switch and an extra length of electric cord is offered for remote control use. • **Greenlee Tool Co.,** 2136 12th St., Rockford, Ill.

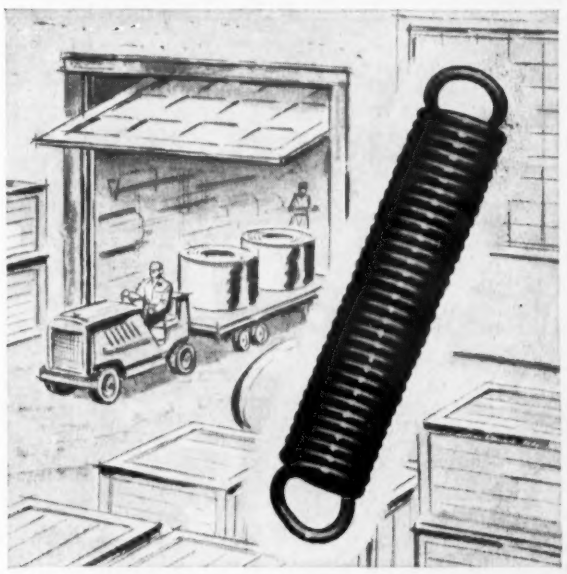
▲ For more details circle **NED-398 D1** on enclosed inquiry slip ▲



CF&I-WICKWIRE WIRE Rope
New discovery lengthens rope life

Laboratory tests proved that Double Gray®-X lasted *45% longer than the average of other major brands of rope tested.* CF&I's new wire drawing technique, including the use of molybdenum disulphide to form a molecular shield around each wire, is responsible for this large increase in rope life. Write for complete information. 7669 A

▲ For more details circle **NED-400 D1** on enclosed inquiry slip ▲



CF&I-WICKWIRE SPRINGS
Designed to your specifications

CF&I engineers will help you design the correct spring for any application. Compression, Extension, Torsion, Flat, Special. Get details in *Catalog S-500.* 7501

▲ For more details circle **NED-401 D1** on enclosed inquiry slip ▲

CF&I... Steelmaster for America

A nation-wide steel company, employing American labor and producing many of the steel products used by American industry . . . these are some of the meanings symbolized by the CF&I Image.

CF&I facilities include integrated mills and product manufacturing plants in major industrial areas; and sales offices in all principal cities. Over 40 well-stocked warehouses from coast to coast assure you quick and efficient delivery on all your orders.

Discover the range and diversification of CF&I Steel Products. Write for free Catalog G-50 Rev. Then, for more detailed information and service, contact a local CF&I sales office.

Plants at: Pueblo, Colo. • Oakland and South San Francisco, California Buffalo, N. Y. • Palmer, Massachusetts Birdsboro, Pennsylvania • Roebling, New Jersey • Trenton, New Jersey

7666

CF&I STEEL

THE COLORADO FUEL AND IRON CORPORATION

DENVER • OAKLAND • NEW YORK

▲ For more details circle **NED-399 D1** on enclosed inquiry slip ▲

NAYLOR...
The Economical Steel Pipe

Pipe sizes from 4" to 30" in diameter in a wide range of wall thickness. NAYLOR Spiralweld steel pipe . . . easy to handle and install with built-in strength and safety. Suitable for most industrial applications.

For connecting NAYLOR pipe, all types of flanges and mechanical couplings are available in addition to the NAYLOR Wedgelock coupling illustrated. This positive coupling anchors securely to pipe ends. A hammer is the only tool required to connect or disconnect it.

Write for Bulletin No. 59 for data on pipe, fittings and connections.

NAYLOR PIPE Company

1247 E. 92nd St., Chicago 19, Illinois

Eastern U.S. and Foreign Sales Office:
60 East 42nd Street, New York 17, N. Y.

For more details circle NED-402 D1 on enclosed inquiry slip

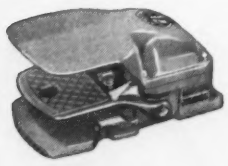
Rugged Foot Switches

A-B QUALITY

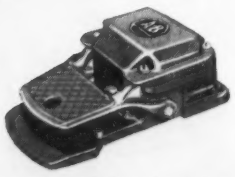
Bulletin 805 Style AS switch with hood completely covering both top and sides.

This A-B foot switch—the Bulletin 805—is built for the tough jobs. The sturdy, die-cast aluminum housing has an extended base to prevent tipping—the switch does not have to be bolted down. Double break, snap-action, silver contacts never need service attention of any kind.

The contact trip point is easily adjustable and, when equipped with two contact blocks, can be set for simultaneous or two-stage operation. Latch—shown in picture—can be supplied for maintained contact operation. Available in NEMA Type 4 watertight and oiltight applications and Type 7 explosion-proof service. Send for complete information today.



Bulletin 805 Style AG switch with top guard.



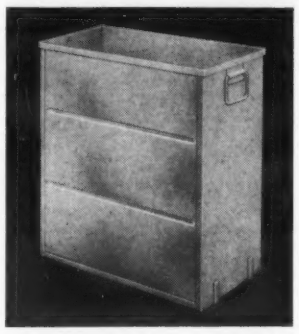
Bulletin 805 Style A without foot protection.

Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
Member of NEMA
Quality MOTOR CONTROL

For more details circle NED-403 D1 on enclosed inquiry slip

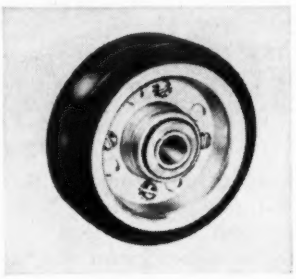
ALUMINUM CONTAINERS
weigh 19 lb, hold 7½ cu ft



Easily handled, stored, and cleaned aluminum container is suited for handling of various lightweight materials or use as a refuse bin. It is made of 16-gage aluminum, measures 14 x 24 x 27 in., and is reinforced around the top and across the bottom. The seamwelded container weighs 19 lb and holds 7½ cu ft. Two drop handles are standard and casters and a cover are optional. • **Dolin Metal Products, Inc.**, 315 Lexington Ave., Brooklyn 16, N. Y.

For more details circle NED-404 D1 on enclosed inquiry slip

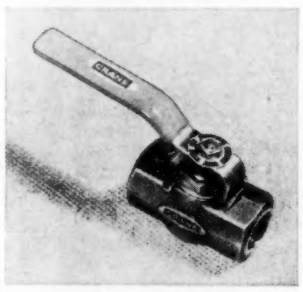
REMOVABLE-TIRE WHEELS
made in 3 to 10-in. diameters



Both annular adjustable cup and cone or Hyatt type roller bearings are available on Paydisc removable-tire wheels. Tire of nonmarking gray, conductive, or neoprene rubber is securely held by accurately machined removable side discs. Cadmium plated wheels are available in a wide range of caster series in 3 to 10-in. diameters. • **Payson-Harris & Reed, Inc.**, 2916 W. Jackson Blvd., Chicago 12, Ill.

For more details circle NED-405 D1 on enclosed inquiry slip

BALL VALVES
¼ to 2-in. sizes, rated to 800 psi

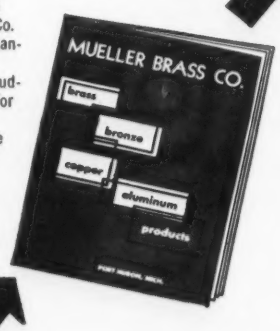


Line of bronze, steel, and Type 316 stainless steel ball valves in ¼ to 2-in. sizes are designed for vacuum to 800 psi, −40 to 400° F service in chemical, petroleum, food processing, plant power, and other industrial applications. The two-directional units have precision, chrome-plated balls and Teflon seats preloaded to maintain tight shutoff even in air or gas service, or when volatile fluids are involved. Tapered cartridge which contains the entire seating assembly is easily removed from the bottom of the valve body by removal of a single retainer nut. Orange plastic-sheathed handles require only a quarter-turn to fully open. • **Crane Co.**, 300 Park Ave., New York 22, N. Y.

For more details circle NED-406 D1 on enclosed inquiry slip

THIS MANUAL GIVES YOU THE FACTS ABOUT **ONE DEPENDABLE SOURCE** FOR A WIDE VARIETY OF BRASS, BRONZE AND ALUMINUM PRODUCTS.

This manual contains technical information on Mueller Brass Co. production processes for the manufacture of brass, bronze and aluminum fabricated parts including forgings, special alloy rod for screw machine products, impact extrusions, formed tube assemblies, sintered metal parts and plastic parts as well as products for the plumbing and heating and the refrigeration and air conditioning industries. Send for your copy today.

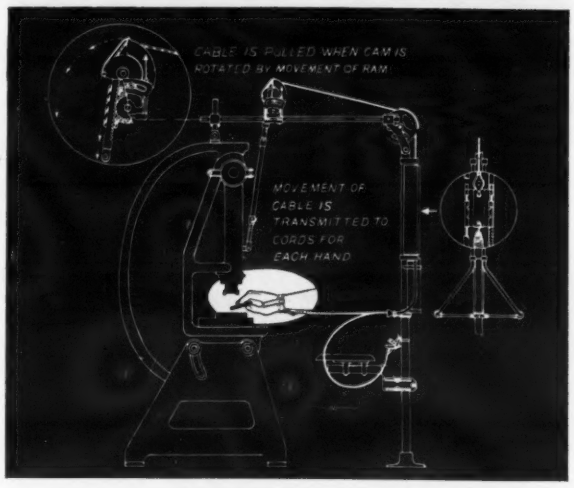


314

Please send me Mueller Brass Co. Manual No. FM 3017.

Name_____
Firm_____
Address_____
City_____ State_____

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN



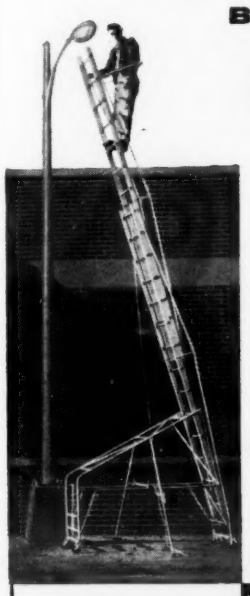
POSSONS PULL-BACK SAFETY DEVICES for Punch Presses, Press Brakes, Drop Hammers, Embossing Presses

The press operator wears soft, strong nylon wristbands, to which lightweight steel-cored cables are attached. The operator feels no pull-back action from the POSSONS Safety Device unless he forgets to remove his hands or the press repeats. He can work faster with confidence. No interference in handling materials. Free catalog shows installation on various presses.

THE POSITIVE SAFETY MANUFACTURING CO.
4404 Perkins Avenue • Cleveland 3, Ohio • UTah 1-1878
In Canada: SAFETY SUPPLY COMPANY • Toronto, Ontario

For more details circle NED-407 D1 on enclosed inquiry slip

FOR MORE USES... MORE SAFETY— BUY *Bally-Hi*



Open construction design allows the "Bally-Hi"—a two-stage ladder mounted on a wheeled frame—to move between and over obstacles such as machines—where ordinary ladders can't go. Collapsible outriggers prevent tipping. Reaches heights to 25 ft., anchors to floor firmly, goes through average size doorways when collapsed. Equipped with extra safety and comfort features that contribute to the user's sense of security. "Bally-Hi" may be truck-mounted.

Ballymore "Safety-Step" ladders serve industry.

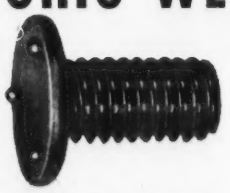
WITH OR WITHOUT HANDRAILS

For complete details write to
BALLYMORE COMPANY
WEST CHESTER 3, PA.
CALL YOUR LOCAL DISTRIBUTOR

BALLYMORE
EQUIPMENT FOR WORKING *Safely* ABOVE FLOOR LEVEL

For more details circle NED-408 D1 on enclosed inquiry slip

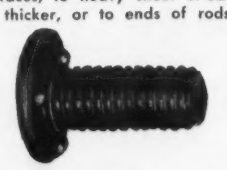
OHIO WELD SCREWS



GW SCREWS — Used where design requires a smooth unmarred surface and a fastener permanently fixed in place.

HH SCREWS — Used where a single, button-type projection is required when welding to curved surfaces, to heavy sheet 3/32" or thicker, or to ends of rods.

RW SCREWS — Used where a hermetic seal is required to prevent leakage of air, gas, water, oil or dust, or when welding to perforated metal or wires.



HW SCREWS — Used where a self-locating through bolt is required to be fixed securely in place so that it will not turn and a flush surface is required for attaching mating parts.

Thread Size #6-32 to ⅜-16
Samples and information available upon request.

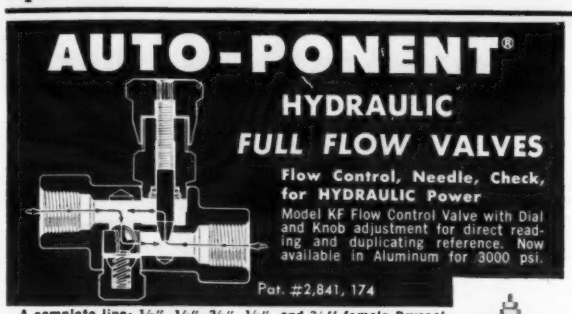
The OHIO WELD FASTENERS Primary Fastener in Fastener Assemblies

THE OHIO NUT AND BOLT CO.
14 FIRST AVENUE, BEREA, OHIO

For more details circle NED-409 D1 on enclosed inquiry slip

AUTO-PONENT®

HYDRAULIC FULL FLOW VALVES



Flow Control, Needle, Check, for HYDRAULIC Power

Model KF Flow Control Valve with Dial and Knob adjustment for direct reading and duplicating reference. Now available in Aluminum for 3000 psi.

Pat. #2,841, 174

A complete line: 1/8", 1/4", 3/8", 1/2", and 3/4" female Dryseal Pipe Sizes in all models and types. Equivalent Aeronautical Tube Sizes on special order.

MINIMUM PRESSURE DROP AND POWER LOSS . . . Oversize ports and passages give maximum flow at minimum pressure drop, insure greater accuracy and response in hydraulic or large volume air cylinder control.

EASY FLOW ADJUSTMENTS under full pressure. Seal located at port to eliminate air or dirt traps. Gland structure equally effective on pressure or vacuum.

SENSITIVE, CHATTERLESS BALL CHECK . . . Patented design insures rapid ball movement to open or close at low differentials.

FORGED BODIES permit higher pressures with wide safety margins. Aluminum—3000 psi; Steel and Stainless Steel—5,000 psi. Pressure ratings based on better than 5 to 1 safety factor. All internal parts are Stainless. Write for illustrated catalog.

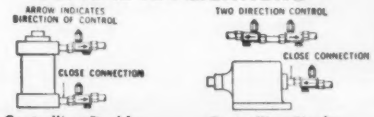
Model F Standard Flow Control Valve or Model N Needle Valve

Model KF Knob and Dial Flow Control Valve or Model KN Needle Valve.

Model PF Knob and Dial Flow Control Valve or Model PN Needle Valve for panel mounting.

Model C Check Valve for In-Line Mounting.

TYPICAL APPLICATIONS

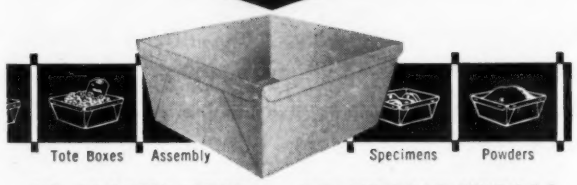


Controlling Double Acting Cylinder — Controlling Single Acting Cylinder

AUTOMATION AUTO-PONENTS INC. COMPONENTS ® 2929 GRANT STREET BELLWOOD (Chicago Suburb) ILLINOIS

For more details circle **NED-410 D1** on enclosed inquiry slip

BURNITOL DISPOSABLE UTILITY BOXES



SO MANY USES . . . SO ECONOMICAL!

Eliminate the cleaning and maintenance of small containers! Burnitol Utility Boxes are of one piece waxed paper board construction shipped ready for use. So economical they are readily expendable.

There's no limit to the uses of this sturdy container . . . from handling nuts and bolts to fine powders (siftproof). Ideal for small parts assembly or storage, Burnitol will hold wet or dry materials, and will hold water more than 24 hours. Uniform size: 6½" x 6½" x 3". Already in use in the country's largest industrial plants.

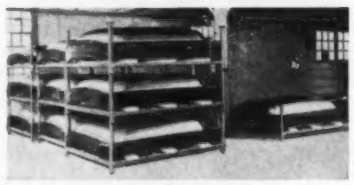
Write today for free samples and prices.

BURNITOL MANUFACTURING CO.

P.O. Box 118, Chicopee, Mass.

For more details circle **NED-411 D1** on enclosed inquiry slip

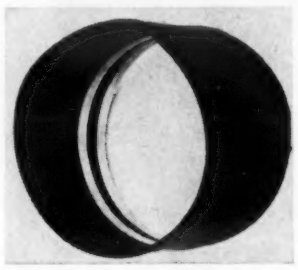
STACKING PALLETS facilitate storage and handling



Made in 1200-lb Junior and 3000-lb Standard capacities, Stak-Pal tubular steel stacking pallets simplify both materials handling and storage. Components of system are base rack sizes from 30 x 42 in. to 48 x 60 in., sets of four 18 to 48-in. high corner posts, and sets of two 30 to 60-in. high side frames. Feet of these welded steel units rest securely in socket tops of corner posts or side frames for safe, convenient four or five-high stacking. Stak-Pals can be supplied with plywood or sheet steel solid decks instead of standard deckboards. • **C. E. Robinson Co.**, 220 Colburn Ave., Joliet 6, Ill.

For more details circle **NED-413 D1** on enclosed inquiry slip

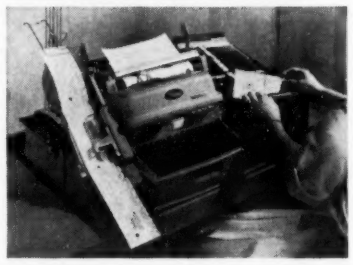
FLEXIBLE DUCT CUFF permits easy disconnecting



Ability of this soft cuff to stretch assures a snug fit on nominal sized Wiremold flexible duct fittings, and also permits connection to oversized end fittings. Air and dust-tight connections are made with the reusable cuff which also eliminates metal-to-metal contact. Use is with industrial ducts of the same nominal size ranging from 2 to 8 in. ID. Made of two-ply, neoprene coated cotton net, it resists abrasion, gas, and oil, and can be permanently bonded to the duct. • **Wiremold Co.**, Hartford 10, Conn.

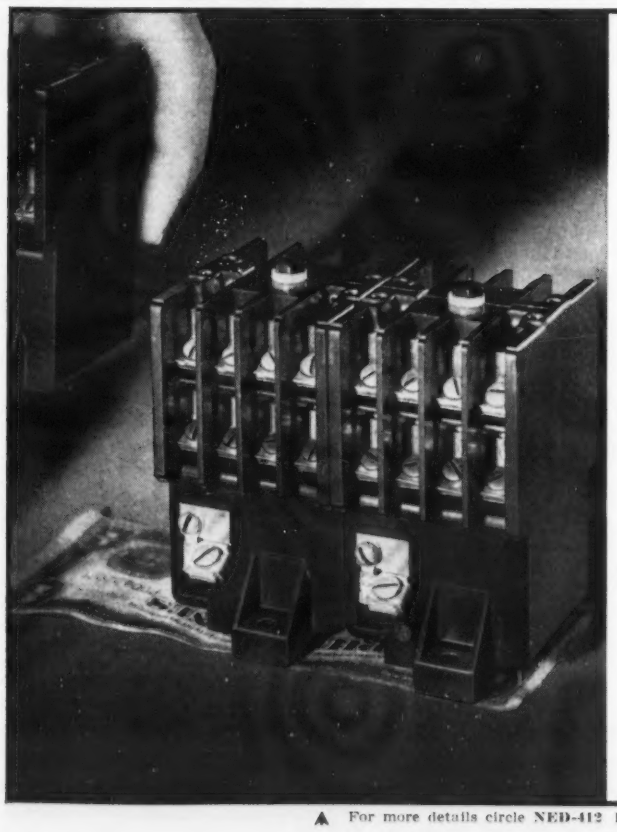
For more details circle **NED-414 D1** on enclosed inquiry slip

TAPE-OPERATED COMPOSING UNIT automates duplicating, offset work



Edge Card Punch and Edge Card Reader are now offered for use with Justowriter automatic tape-operated composing machine to prepare listings quickly in any sequence for duplicator or offset printing. The edge cards are the same as those used as address and item cards in data processing systems. Cards can be code-punched in continuous form, then separated, filed, and run repeatedly in any order. Copy for printing directories, parts, property, subscription, library, and other listings is quickly prepared. • **Friden, Inc.**, Promotion Planning Dept., 97 Humboldt St., Rochester 2, N. Y.

For more details circle **NED-415 D1** on enclosed inquiry slip



CONTROL

New! Space savingest relay you've ever seen: New Cutler-Hammer "Compact 300"

Cutler-Hammer's new, versatile 300 volt 6 amp., industrial control relay is so reliable it's permanently sealed. Bifurcated contacts add even more millions of operations.

So compact you can get 8 circuits in a panel space only 2" wide by 2¾" high. 2, 3, 4, 6, 8 poles with any combination of N.O. or N.C. contacts available. Add new "mechanical memory" latch at any time. Same life as relay. Get full details in PUB. ED-LO-79-L251.

WHAT'S NEW? ASK...

CUTLER-HAMMER

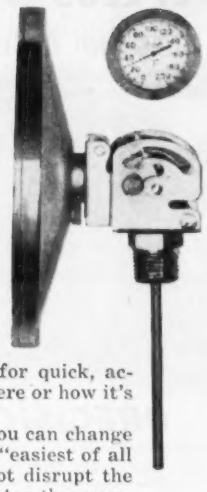
Cutler-Hammer Inc., Milwaukee, Wisconsin • Division: Airborne Instruments Laboratory • Subsidiary: Cutler-Hammer International, C. A. Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer Mexicana, S. A.

For more details circle **NED-412 D1** on enclosed inquiry slip

New Rochester

"ANY-ANGLE" THERMOMETER

adjusts easily to any viewing position . . .



Fully adjustable to any angle for quick, accurate reading regardless of where or how it's mounted.

With the new "Any-Angle," you can change the viewing angle at any time—"easiest of all to adjust." Its flexibility will not disrupt the top performance of this *Rochester* thermometer's precision made parts.

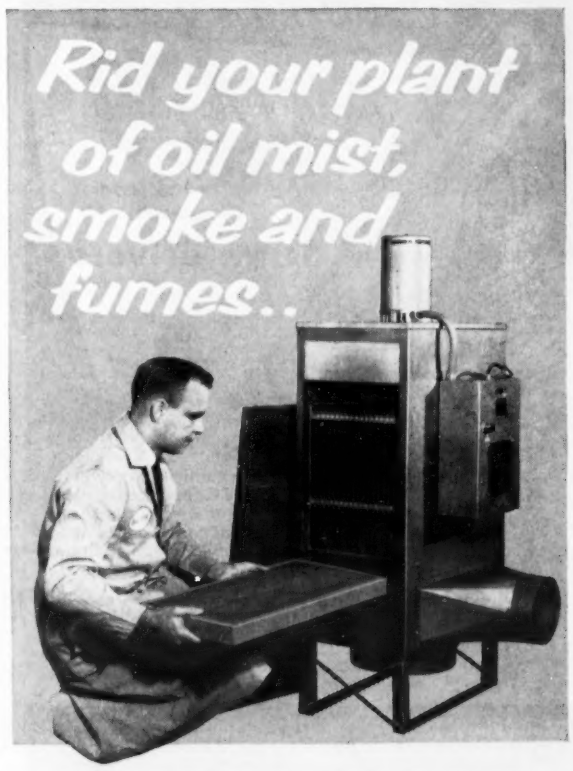
Write for complete information:

American-Standard, Controls Division
Rochester Instruments Plant
114 Rockwood St., Rochester 10, N. Y.

ROCHESTER

AMERICAN-Standard
CONTROLS DIVISION

For more details circle **NED-416 D1** on enclosed inquiry slip



with MISTI-MAZE *Electronic Precipitator*

Here's the modern solution to localized plant air pollution problems! Compact Misti-Maze Precipitator can be installed near operation involved. Its new, improved design provides efficiency in a smaller unit. Air is cleaned and vented back into plant, eliminating loss of heated or cooled air. Coolants can be returned to machine for reuse. Easy to install . . . no special connections.

Install Misti-Maze For These Important Air Cleaning Benefits:

Lowers heating and cooling costs. Ideal for air conditioned plants. Avoids necessity for frequent cleaning of lighting fixtures.

Increased worker efficiency. Reduce absenteeism and improve output and quality of production through better operating conditions.

Reduces health hazards. Smoke particles, grease and irritants are removed from air.

For full details, write to Air-Maze Corporation, Cleveland 28, Ohio

AIR-MAZE DIVISION
CLEVELAND 28, OHIO

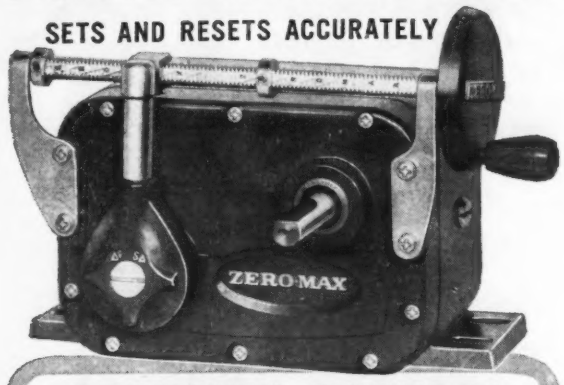
ROCKWELL R STANDARD ®

ROCKWELL-STANDARD CORPORATION

For more details circle **NED-417 D1** on enclosed inquiry slip

STEPLESS VARIABLE SPEED

SETS AND RESETS ACCURATELY



PRECISION CONTROL

This Zero-Max screw control gives exact speed settings. It is one of many options from the standard lever type control.

Zero-Max drives deliver constant torque, are truly stepless—zero to maximum—available with instant reverse and neutral. They are low cost, small in size but big in power and performance. Over 30 basic fhp models (1/15 to 3/4 hp) carry torque ratings of 3 to 450 in. lbs. and speed ranges to 0 to 1200 rpm. Drives come with or without motors and gearheads.

Send for free catalog and name of your nearest representative.

The **ZERO-MAX**® *Company*

2855 Harriet Avenue South
Minneapolis 8, Minn.
TAylor 7-5521

▲ For more details circle **NED-420 D1** on enclosed inquiry slip ▲

The Standard of Excellence!

■ For design, utility, and service you can't beat VACO. The Comfordome handle and oil tempered chrome vanadium steel blade assure maximum convenience at low cost. The VACO name and unconditional guarantee assure finest workmanship.

Look for the VACO Vari-Board! Next time you need a screw driver, fit the driver to the screw by making your selection from a VACO Vari-Board. Your choice of up to 120 screw drivers at a glance!

NEW! VACO PLIERS! Now available in all popular styles and sizes. Made to VACO quality specifications.

VACO PRODUCTS COMPANY, 317 E. Ontario St., Chicago 11, Ill.
In Canada: Vaco-Lynn Products, Ltd., Montreal 1, Quebec

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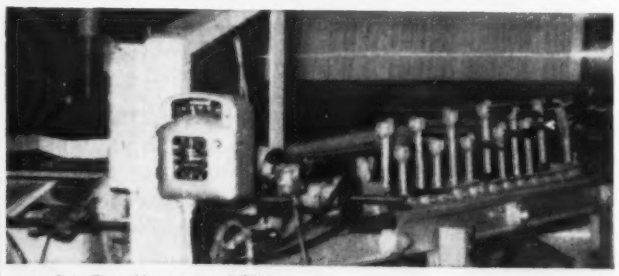


At Burlington Mills . . .

A WAGNER® INDUSTRIAL RECORDING SYSTEM *records slasher production*

Burlington Mills uses an Industrial Tachograph to measure the production efficiency of this slasher. The Tachograph is a precision recording device that lets you measure output versus time. It can be used wherever the control of speed, time and measurement is essential to the quality of your products.

Tachographs graphically record operation of one machine or an entire line...aid in quality control and time study programs ...help you determine production peaks and valleys, and non-productive time. Chances are, Tachographs can help increase your mill's efficiency. Mail coupon below for full information.

Wagner Electric Corporation
6435 PLYMOUTH AVE., ST. LOUIS 33, MO., U. S. A.

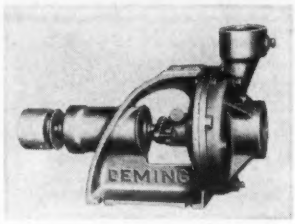
Please send a copy of Bulletin SU-144.

Name _____
Company _____
Address _____
City & State _____
Proposed Application _____

W161-1

▲ For more details circle **NED-422 D1** on enclosed inquiry slip ▲

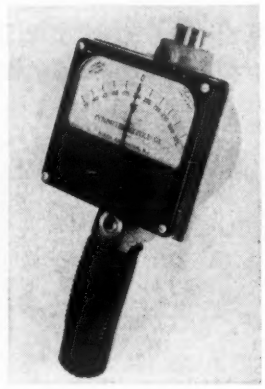
CENTRIFUGAL PUMP for belt or direct motor drive



Offered in capacities from 10 to 300 gpm at heads ranging to 150 ft, line of two ball bearing, end suction, centrifugal pumps is suited for belt or motor drive. The semiopen impeller is mounted on a stainless steel shaft with a taper fit for alignment and easy removal. Working parts can be pulled without disconnecting the casing from piping. • **Deming Co.**, Salem, Ohio.

▲ For more details circle **NED-423 D1** on enclosed inquiry slip ▲

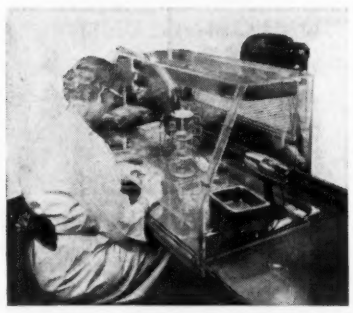
HAND POTENTIOMETER is portable temperature instrument



By using interchangeable thermocouples, temperatures in the suppressed range of −300 to 3000° F are measured accurately with this Model 1331 Quick Check portable hand potentiometer. Accuracy within 0.5 per cent is obtained in checking ovens, furnaces, salt pots, roll surfaces, bearings, dies, and refrigeration equipment. It is also available in table top model. Prices range to $109.50. • **Pyrometer Service Co.**, 348 River Rd., North Arlington, N. J.

▲ For more details circle **NED-424 D1** on enclosed inquiry slip ▲

DUST-FREE CABINET made of clear acrylic plastic



Development, assembly, or repair operations requiring a dust-free environment can be performed in the Cleannaire cabinet. Made of clear acrylic plastic with steel fittings, it measures 29 x 35 x 22 in., but can be specified in other sizes. Cabinet has a filter to remove dust particles down to 0.5 micron in size. Plunger switch starts a 50-cfm continuous duty blower when the night cover is removed creating a positive pressure. Shadow-free light is obtained from a four-tube, instant-start fluorescent light. Removal of cover also completes electrical connections for light and receptacles. • **Plastigage Corp.**, 915 E. South St., Jackson, Mich.

▲ For more details circle **NED-425 D1** on enclosed inquiry slip ▲

AIR CYLINDER

with **Built-in ELECTRIC VALVE**

Write for Bulletin BM-25
Address:
Dept. NED-461
Bellows-Valvair
Akron 9, Ohio

Built-in speed controls and electric directional valve give this Model BEM Bellows Air Motor® flexibility, speed and precision control. Low voltage makes it safe electrically anywhere. Requires only one air connection. Available in five bore sizes: 1¼", 1¾", 2½", 3⅝", 4½"—any stroke length.

963-C

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

▲ For more details circle **NED-426 D1** on enclosed inquiry slip ▲

SMALL MOTOR ARMATURES

SAVE TIME — TOOLING — MONEY

When made by **WILSON'S**

Many types and sizes of std. laminations enable us to make armatures with many stack lengths, shaft lengths, and wire sizes to meet practically every requirement at low cost.

Approx. Actual Size

YOU — Build the field into your product.

WE — Produce only HIGH-QUALITY ARMATURES to meet your SPECIFICATIONS and DELIVERIES

Write for Literature — or Send Specifications for Prices

WILSON'S OF CLEVELAND
(Formerly of Cleveland, O.)
P. O. Box 8995—Fort Lauderdale, Fla.

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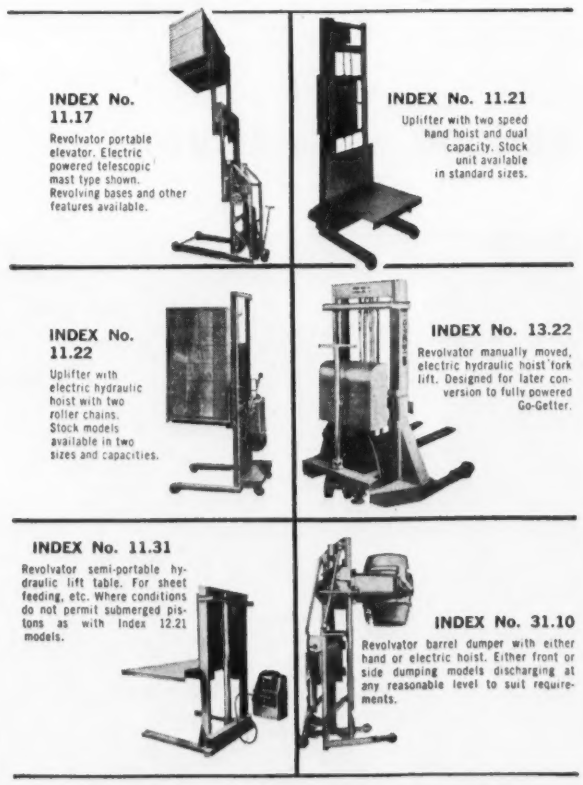
RUGGED REVOLVATOR LIFTS *are adapted to your needs*

Since 1904 Revolvator has been building portable elevators and related lifting equipment. Portable elevators are available in any reasonable lift and platform size in capacities from 500 lbs. to 5,000 lbs. Lifting may be by cable or hydraulic, hand operated or electric, according to requirements. Variations of fixed or revolving base, telescopic masts and other accessories are available.

Portable cranes, barrel and carboy handling and dumping lifts and similar types of equipment are based on the same rugged Revolvator components and design as the basic portable elevator.



INDEX No. 11.17
Revolvator portable elevator. Electric powered telescopic mast type shown. Revolving bases and other features available.

INDEX No. 11.21
Uplifter with two speed hand hoist and dual capacity. Stock unit available in standard sizes.

INDEX No. 11.22
Uplifter with electric hydraulic hoist with two roller chains. Stock models available in two sizes and capacities.

INDEX No. 13.22
Revolvator manually moved, electric hydraulic hoist fork lift. Designed for later conversion to fully powered Go-Getter.

INDEX No. 11.31
Revolvator semi-portable hydraulic lift table. For sheet feeding, etc. Where conditions do not permit submerged pistons as with Index 12.21 models.

INDEX No. 31.10
Revolvator barrel dumper with either hand or electric hoist. Either front or side dumping models discharging at any reasonable level to suit requirements.

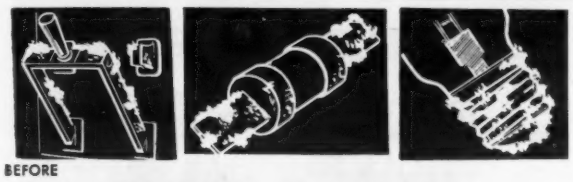
REVOLVATOR CO.

ESTABLISHED 1904

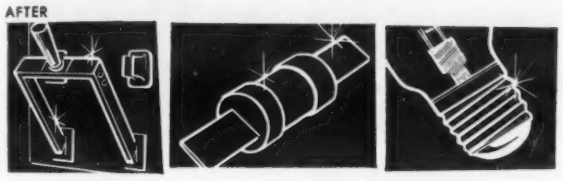
Designers and Manufacturers of Portable Elevators, Power and Hand Lift Trucks, Hydraulic and Traction Elevators, Carboy and Barrel Dumpers, Portable Cranes, Positioners, Storage Racks, Turntables and Other Material Handling Equipment.

8732 Tonnele Ave.
NORTH BERGEN, NEW JERSEY
Sales Representatives in Leading Centers

▲ For more details circle **NED-428 D1** on enclosed inquiry slip ▲



SILICONE COMPOUND KEEPS CONTACTS CORROSION-FREE!



Dow Corning SILICONE COMPOUNDS cut your upkeep chores. Just a small dab from a handy applicator tube keeps lamp bulb bases, fuse cartridge clips, switch blades and clips . . . wiping contacts on any devices . . . corrosion-free.

Long-life silicone compounds prevent corrosion . . . eliminate shorts, grounds and arcs . . . protect and lubricate plastics, leather, rubber and fabrics. Serviceable from —40 to 400 F!

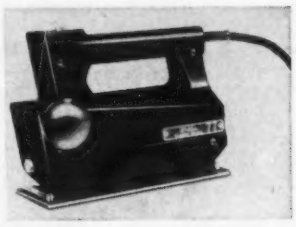
FREE SAMPLE and information. Write today. Dept. 5816.

first in silicones

Dow Corning CORPORATION
MIDLAND, MICHIGAN

▲ For more details circle NED-429 D1 on enclosed inquiry slip ▲

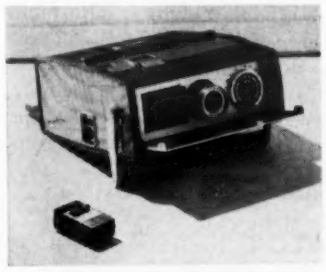
STRAIGHT-LINE SANDER
powered by reciprocating motor



Operating at 14,400 strokes per minute, the Model 77 straight-line action sander has a 5/32-in. stroke. Rubber bearings eliminate wear and lubrication problems. A removable knob adapts it for right or left hand operation and allows free access into corners. The 5½-lb tool has a high impact plastic housing and sanding plate, pushbutton control, and 26-sq in. sanding area. Price is $19.95. • **Weller Electric Corp.**, 601 Stone's Crossing Rd., Easton, Pa.

▲ For more details circle NED-432 D1 on enclosed inquiry slip ▲

REMOTE CONTROL PROJECTOR
slides changed, focused by sound



Two miniature transmitters which vibrate to create sound waves are contained in the remote control unit for the Tele-Sonic wireless remote slide projector. Operating without wires or batteries, it permits the operator to control projector from any point in the room at distances to 40 ft or more, or to move about. Trays holding 40 Bantam, 35-mm, or Super slides, separately or mixed, are accommodated by the projector. Price is $269.95. • **Bell & Howell Co.**, 7100 McCormick Rd., Chicago 45, Ill.

▲ For more details circle NED-433 D1 on enclosed inquiry slip ▲

LIQUID DISPENSERS
manually or solenoid controlled

Full flow of oil or other liquids is gravity delivered through ¼-in. nylon or metal tubing from a central location by Trico heavy-duty dispensers. Units are available with manually controlled or solenoid operated valves. In latter, feed starts instantly when solenoid is energized and stops when current is shut off. Dispensers are made in 10-oz, 1-pt, 1-qt, 2½-qt, and 1-gal sizes with brass reservoir assemblies fitted with Pyrex glass or shatterproof Lucite cylinders. Liquid supply is always visible. Large filler cap is self-closing. Units are furnished with mounting stud and nut for easy installation. • **Trico Fuse Mfg. Co.**, 2948 N. Fifth St., Milwaukee 12, Wis.

▲ For more details circle NED-434 D1 on enclosed inquiry slip ▲

Stow Flexible Tool Shafts Deliver Job-Rated Performance

Stow Flexible Tool Shafts are ideally suited for production grinding, polishing, sanding, plus many other finishing operations. Stow shafts help to increase precision and to eliminate operator fatigue. Flexibility and ease with which the handpiece can be maneuvered permits a freedom of operation that can not be equalled with any other portable tool.

Equip idle motors or gas engines with Stow Tool Shafts. Harness your available power in planning production short-cuts. Only precision ball bearings are used in the motor connections and handpieces. High quality shaft cores and rubber, oil-resistant casings are used in all sizes.

A large number of single-speed and multi-speed complete flexible shaft machines are immediately available. Capacities from ¼ HP to 3 HP with speeds to 6800 RPM. See how Stow Flexible Shafting can work for you. **Send for Catalog 59.**

STOW MANUFACTURING CO.
26 Shear Street • Binghamton, New York

▲ For more details circle NED-435 D1 on enclosed inquiry slip ▲

KEY® GRAPHITE PASTE

Best sealer for oil, gas, steam

Expands under heat, yet joints don't "freeze." Safe for flammable liquids (officially listed by Underwriters' Laboratories). ¼ lb. cans, Handy Dope Kit, 1 lb., 2¾ and 10 lb. cans, 30 lb. and 60 lb. buckets, 500 lb. drums.

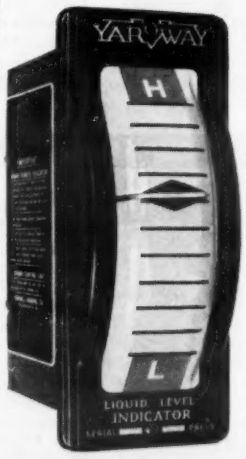
WRITE FOR CIRCULAR 240-B

W-K-M DIVISION OF ACF INDUSTRIES INCORPORATED
Dept. Z-4, P. O. BOX 2117, HOUSTON, TEXAS

KP 6001R

▲ For more details circle NED-430 D1 on enclosed inquiry slip ▲

ARE YOUR LIQUID LEVEL READINGS ON THE LEVEL?



YARWAY REMOTE LIQUID LEVEL INDICATORS bring hard-to-see or distant level readings down to your level—at convenient eye height, instantly and accurately. Readings are right because the indicating mechanism is operated by the liquid itself. Readings are bright because of brilliant illuminated wide-vision dial.

More than 10,000 satisfied users — on boilers, feedwater heaters, storage tanks, etc. Free catalog. Write YARNALL-WARING CO., 131 Mermaid Ave., Phila. 18, Pa.

YARWAY

What makes it RIGHT for you?

The right fastener for YOUR needs is one that is specifically designed, engineered and manufactured to meet your production requirements precisely. Fabricated from the most suitable metal and provided with the right finish, it must combine secure fastening with maximum speed and ease of assembly.

If you're looking for the right fasteners, Stanley-Humason has the engineering experience and ability needed to analyze your requirements and develop the best possible designs to meet them exactly . . . and the complete, modern production facilities needed to produce your fasteners efficiently and make prompt deliveries keyed to your own production schedules.

FOR ADDITIONAL INFORMATION . . . send for data sheets on Flat Spring, Retaining Ring, Hour Glass or Screw Machine Type Fasteners, and Special Application Nuts . . . or simply write, outlining your fastener requirements. Also available are data sheets on assembled products, metal stampings, screw machine parts and wire forms.

STANLEY-HUMASON, INC.
A Subsidiary of The Stanley Works
Dept. D, 58 Stafford Ave.
FORESTVILLE, CONNECTICUT

STANLEY®

SPRINGS • WIRE FORMS • STAMPINGS • SCREW MACHINE PRODUCTS • ASSEMBLIES

▲ For more details circle NED-431 D1 on enclosed inquiry slip ▲

▲ For more details circle NED-436 D1 on enclosed inquiry slip ▲

NEW Franklin standard motors of LIGHTWEIGHT aluminum

Pre-wired ON OUR ASSEMBLY LINE, NOT YOURS!

Comes pre-connected to your specifications. (All stab connectors up-440 V. All connectors down-220 V!) Just connect the three line leads and the new Franklin motor is ready to run. See it! And write Department NED-4 for free color brochure.

Franklin Electric Co., Inc.
BLUFFTON, INDIANA

For more details circle **NED-437 D1** on enclosed inquiry slip

Here's How To Handle FLAMMABLE SOLVENTS with Production-Line Efficiency and Maximum Safety...

SWABBING & SMALL PARTS CLEANING

Plunger Can

For quick, one-hand moistening of swab, brush or cloth. Depressing spring loaded dasher pumps measured quantity of fluid into cup. Release and excess drains back into can. 5 sizes—dashers 1 to 7" dia. FM approval*.

Bench Parts Washer

Keeps workers hands out of solvent. Removable parts basket has handle. Depress spring mounted fire baffle dasher for solvent, release to drain. Without basket, large cloths or swabs may be saturated. 3 pint capacity. Basket and dasher—5⅝" dia. FM approval*.

WASHING & CLEANING OPERATIONS

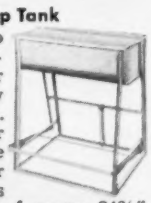
Wash Tank

Two handled perforated basket for fast, easy parts agitation. Self-draining by resting basket on lugs at top of tank. Renewable fusible link melts at 160° F, automatically drops cover to snuff out fire. 4 sizes ranging from 8½"x 8½"x9¾" to 15"x15"x15". FM approval*.

Air-Matic Parts Washer

Air Motor moves basket thru solvent, automatically cleans parts while machine operator continues production. Fusible link drops cover automatically to snuff out fire. Operates on 25-50 p.s.i. air. Size 15"x 15"x21". FM approval*.

Foot Treadle Dip Tank

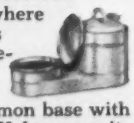


Work-high dip tank with self-closing cover operated by foot treadle. Designed for washing large parts. Safety air check cushions accidental fall of cover. 24¾" long x 13" wide and 8¾" deep. FM approval*.

Machine Bench Can

Attaches to bench alongside of machine. Operator cleans and rinses parts by depressing fire protective metal dasher. Size 10"x7"x8". FM approval*.

Swab Can with Reservoir



For applications where large quantities of solvent are required. Supply tank mounted on common base with applicator can. Valve permits operator to replenish liquid supply at bench. Perforated metal fire baffle dasher. 2 sizes —1 gal. and 5 gal. capacity. FM aproval*.

LOOKING FOR MONEY-SAVING IDEAS

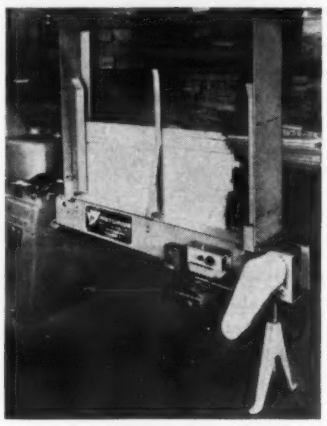
Protectoseal Catalog has many time and labor-saving suggestions for handling flammable solvents in production applications. Sent without obligation.

**Factory Mutual Laboratory approval*

THE PROTECTOSEAL COMPANY
1764 South Western Avenue, Chicago 8, Illinois

For more details circle **NED-438 D1** on enclosed inquiry slip

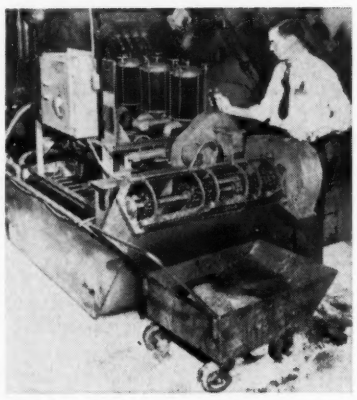
AUTOMATIC MAGAZINE FEED for molders, stickers, and rip saws



Requiring only one operator, this versatile automatic magazine feed handles random lengths and produces unmarred work when feeding to molders, stickers, and rip saws. The woodworking machine feed also has other applications. Adjustable pusher dogs on an endless chain continually advance the bottom piece into the machine. An electromagnetic clutch allows the feeder to catch up and butt against the preceding piece. Magazine capacity is ¾ to 4-in. wide strips, stacked to a 36-in. height. Table height is adjustable from 26 to 38 in. Variable speed ranges available are 45 to 90, 70 to 140, and 90 to 180 fpm. The 110-v, 60-cycle, single-phase feed is made with maximum length capacities of 48, 72, and 96 in., which sell for $875, $985, and $1090, respectively. • **Pistorius Machine Co.**, 3 Burns Ave., Hicksville, N. Y.

For more details circle **NED-439 D1** on enclosed inquiry slip

COOLANT SEPARATOR has cartridge filters which are automatically back-flushed

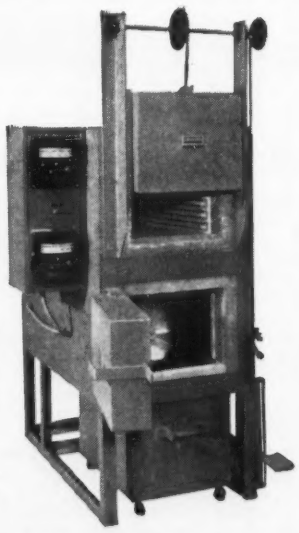


Filtering particles down to 5 microns in size, this combination coolant separator and back-flushing cartridge filter is made in capacities of 20 to 500 gpm for use in gun drilling, honing, and lapping operations. Most of the solids entering the unit are separated by retarded movement through overflow weirs before the liquid is pumped through the cartridges. By time clock and electronic control, cartridges are back-flushed for 6 to 10 sec using the filtered liquid from other cartridges.

Back-flushed liquid containing the dirt is held in a settling tank for 8 to 20 hr, or until solids are settled. Liquid then overflows to the pump section for recirculation. Conveyors remove solids to a tote box. Pleated paper cartridges for use with oil, water, or other soluble coolants are made in 5, 20, and 40-micron retention sizes. • **Henry Mfg. Co.**, 503 E. Reed St., Bowling Green, Ohio.

For more details circle **NED-440 D1** on enclosed inquiry slip

LUCIFER "SPACE-SAVER" COMBINATION HEAT TREATING FURNACES



Two series (8012 and 8008) of "space-saver" combination heat treating furnaces are produced by Lucifer Furnaces, Inc. Hardening, drawing or preheating, and quenching operations can be performed with one furnace. Each furnace has separate controls permitting independent operation of each unit. The 8012 series chambers operate at 2300, 2000 and 1250°F; while the 8008 series chambers reach 2300, 2000 and 800°F. The furnaces operate on standard line voltage . . . no transformer necessary. Twenty standard low-control models are available and each is a complete unit . . . just connect to power supply.

For information about the "space-savers", our complete line, or free engineering advice, call on . . .

LUCIFER FURNACES, INC. Neshaminy 15, Pennsylvania Diamond 3-0411

For more details circle **NED-441 D1** on enclosed inquiry slip

THREE SERIES

MARSH *Needle Valves* for every service

1 ALLOY STEEL

2 316 STAINLESS STEEL

3 416 STAINLESS STEEL

Now—with the addition of a 316 stainless steel series—you have a Marsh Needle Valve for almost any purpose or service. Full range of sizes and patterns. Wide range of pressures and temperatures. All are machined from solid bar stock. All have precision ground stems for close regulation—tight shut-off. All have "Marpak" moulded packing; Teflon in stainless steel valves.

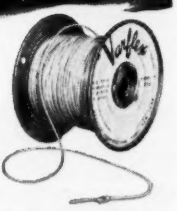
Ask for bulletins covering full line.

MARSH INSTRUMENT COMPANY
Dept. 26, Skokie, Ill.
Division of Colorado Oil and Gas Corporation

Marsh Instrument & Valve Co. (Canada) Ltd., 8307 103rd St., Edmonton, Alberta, Canada. Houston Branch Plant 1121 Rockwell St., Sect. 15, Houston, Texas. Eastern Seaboard Warehouse: Marsh Instrument Company, 1209 Anderson Ave., Fort Lee, N.J.

For more details circle **NED-442 D1** on enclosed inquiry slip

So flexible you can get it on spools or in coils!



FLEXIBLE—at −70° to +500° F. without cracking or checking. Dielectric strength remains.
DIELECTRIC STRENGTH up to 7000 V., even when knotted. Meets MIL-I-3190, revised.
RADIATION RESISTANT — remains nonconductive under higher random intensities.
SIZE AND COLOR CODES—.010" to 3" I. D., in 12 brilliant, non-fade colors.
CHOICE OF LENGTHS—continuous lengths to 5000'; 36" lengths where preferred.
IMMEDIATE DELIVERY on standard items from stock . . . 48 hr. for new production.

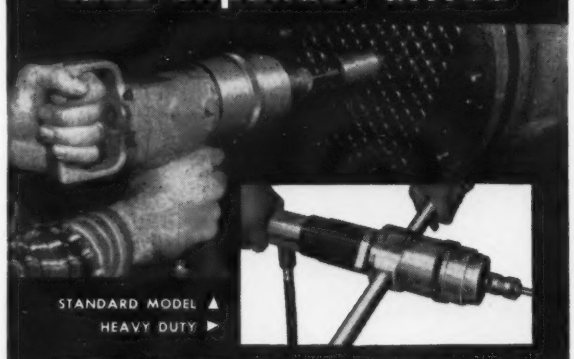
Ideal where miniaturization increases heat and dielectric load on small wires.

• *Send for free test samples*

Varflex SALES CO., INC.
"Never Satisfied Until You Are"
Manufacturers of Electrical Insulating Tubing and Sleeving
310 N. Jay St., Rome, N. Y.

For more details circle **NED-443 D1** on enclosed inquiry slip

ELLIOTT air magnetic tube expander drives



FAST, AUTOMATICALLY CONTROLLED

Particularly good for precision tube rolling in hazardous locations. Rolling stops automatically when preset torque levels are reached. Simple, compact, sturdy. Standard model handles most jobs. For higher torque requirements—the heavy-duty model, with choice of rolling speeds.

ELLIOTT Company
LAGONDA PLANT, Springfield, Ohio
Y9-4

For more details circle **NED-444 D1** on enclosed inquiry slip

4 reasons why the LAPMASTER portable polishing stand

Simplifies Polishing

Makes polishing much easier because it holds polishing paper taut and wrinkle-free . . . *always*. Provides replacement of worn paper with new section . . . *immediately*. Steel stage has been lapped to precision flatness to assure a perfect polishing surface . . . *forever*.

The Lapmaster Polishing Stand is ideally suited for polishing work pieces prior to inspection . . . in the experimental mechanical laboratory . . . and for small run polishing jobs.

Get further facts and details . . . Write for copy of Bulletin L-410.

Lapmaster — THE MACHINE THAT PUT PRECISION LAPPING ON A PRODUCTION BASIS

A PRODUCT OF
CRANE PACKING COMPANY
6411 OAKTON STREET
MORTON GROVE, ILL. *(Chicago Suburb)*
In Canada: Crane Packing Co., Ltd., Hamilton, Ont.

▲ For more details circle **NED-445 D1** on enclosed inquiry slip ▲

makes one or more copies automatically on ordinary paper...

What users like about the 914. It's automatic. No hand-feeding of copy paper or rehandling of original with a XeroX® 914 Office Copier. Just push a button and copies flow. Up to 7 copies per minute, and any number desired. "Worth half a girl more," commented one user.

Supplies cost about 1¢ per copy. Neither expensive coated papers, nor liquid chemicals are required. And since there are no adjustments to make, there's no waste of materials. Easy to operate, the XeroX 914 makes copies on ordinary paper (plain or colored) or selected offset masters.

Copies are as good as originals. So superior is the quality of reproduction that many people say copies look better than the original. The XeroX 914 copies anything the eye can see; copies all colors—evens reds and blues—with sharp black-on-white fidelity. And without damage to originals.

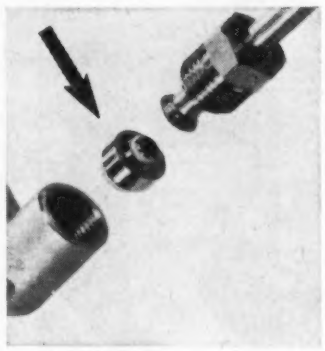
If you spend $50 or more a month for copying supplies, you'll find you can afford to modernize your copying methods, turn out better quality copies, and speed your work systems with a XeroX 914 Office Copier.

For informative booklet, write HALOID XEROX INC., DEPT. 9X-209, ROCHESTER 3, N. Y.

HALOID XEROX®

▲ For more details circle **NED-446 D1** on enclosed inquiry slip ▲

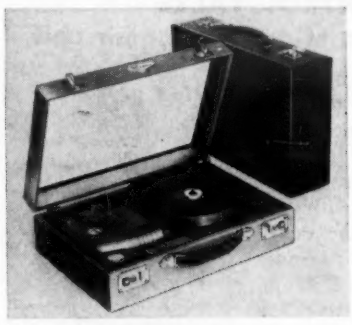
TUBE REDUCER
stainless unit has Teflon seal



Simplified Koncentrik stainless steel tube end reducer consists only of a reducing seat and nut. Seat is inserted into the fitting body to step-down tees, ells, unions, and other fittings. Suited for high pressure and high vacuum uses, it has a confined Teflon seal. • **Special Screw Products Co.**, 100 Northfield Rd., Bedford, Ohio.

▲ For more details circle **NED-447 D1** on enclosed inquiry slip ▲

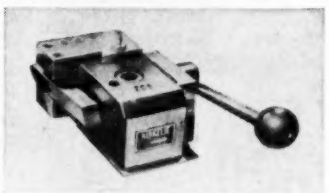
SOUND FILMSTRIP PROJECTOR
for instruction and promotional uses



Consisting of a 100-w projector, four-speed turntable, 1½-w speaker, and a 9 x 12-in. bright-image screen fitted into the top of the handy attache case, this Viewlex Salestalk unit is usable for instruction, promotion, sales, and other presentation work. It combines quality firmstrip projection with matched high-fidelity sound. Player takes up to 12-in. records and has separate volume and tone controls. Price is $104.50. • **Viewlex, Inc.**, Veteran's Memorial Highway & Broadway, Holbrook, L. I., N. Y.

▲ For more details circle **NED-448 D1** on enclosed inquiry slip ▲

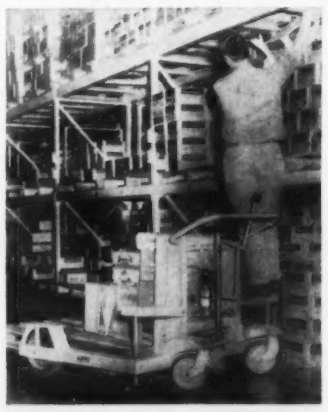
LATHE TOOL HOLDERS
for all engine and turret lathes



Tool posts for every lathe and tool adapters for every lathe operation are included in the Kirkelie tool holder line. Five series are offered: No. 100 for 6 to 12-in. swing lathe operations and a maximum tool bit capacity of ½ in.; No. 200, 12 to 19-in. swing and ¾-in. tool bit capacity; No. 300, 17 to 35-in. swing, 1-in. tool bit capacity; No. 400, 20 to 60-in. swing and 2-in. maximum tool bit capacity; and No. 0 jeweler's lathe, with maximum capacity of 5/16 in. No. 100 to 400 are offered in a basic set of a master tool post and five tool adapters for facing and forming; parting off and grooving; facing, turning, forming, and boring; drilling and boring; and extension facing and turning. Complete set includes seven additional adapters for various other operations. Adapters are easily and quickly changed in the post. Repeat accuracy is within 0.0003 in. • **George E. Kirkelie Co.**, 8717 Darby St., Northridge, Calif.

▲ For more details circle **NED-449 D1** on enclosed inquiry slip ▲

WAREHOUSING TRUCK
used as pallet or dragline unit



Warehousing, order picking, and distribution operations are speeded by this 1-ton capacity, welded steel, multipurpose truck. It functions as a pallet, order picking, and drag line truck, and incorporates 3-ton capacity hydraulic lift, cam-operated hardened tow pin, load protecting main wheel fenders, spring loaded step for braking action, and demountable rubber tired wheels. Timken bearings are used in both the 12 x 3-in. main wheels and 8 x 2-in. swivel caster wheels. Width is 50¼ in., length is 68¼ in., fork lift height is 3¾ in., and weight is 450 lb. • **Nutting Truck & Caster Co.**, 1201 W. Division St., Faribault, Minn.

▲ For more details circle **NED-450 D1** on enclosed inquiry slip ▲

NOW YOU CAN PAINT OVER RUST

Brush or spray OSPHO on rusted metal.

Apply OSPHO® on rusted metal after simply wire-brushing loose rust. OSPHO chemically changes rust into iron phosphate and stops further rust action. Resulting inert surface is an excellent base for maintenance paint. Paint jobs last longer, as proved by repeat orders over past 12 years.

Non-toxic, non-flammable. A gallon treats up to 600 sq. ft. Treats new metal too — prepares galvanized and aluminum surfaces for paint.

1-gal. bottles (cases of 4) @ $3.50 per gal.
5-gal. pails @ $3.40 per gal. • 50-gal. bbls. @ $3.00 per gal.
F.O.B. CLEVELAND

NO-RISK OFFER. Order 5 gallons. Try OSPHO. If it does not do what we claim, *we'll cancel the invoice.*

RUSTICIDE PRODUCTS COMPANY
3131 Perkins Ave., Cleveland 14, Ohio
Quality Maintenance Products Since 1917

▲ For more details circle **NED-451 D1** on enclosed inquiry slip ▲

6 big benefits you get from XeroX® master-making equipment

1. Longer Runs. Xerography is a dry process. The image of an original document is fused permanently onto an offset paper master by XeroX master-making equipment. In effect, the image becomes an integral part of the paper and lasts longer than the paper itself. Xerographic masters thus produce longer runs.

2. Quality of Runoff Copies is Better. The image on an offset paper master prepared by XeroX master-making equipment is an exact copy of the original. The image does not become distorted from liquid chemicals, water, or perforations. Consequently, runoff copies are of superb quality. You can be sure every copy is clear and sharp, precisely like the original.

3. Ease of Handling. Because xerography is a dry process, it is also clean—and fast. No liquid chemicals, no messy peel-apart. And there is no damage or curling of an original. It remains stationary during the process. As soon as the xerographic image is fused, the master is ready for the duplicator.

4. Versatility. XeroX master-making equipment enlarges, reduces, or copies size-to-size. It copies all colors—even reds and blues—with sharp black-on-white fidelity. XeroX equipment simplifies the preparation of *all* types of reproducibles—paper and metal masters, visual-aid transparencies, and diazo intermediates.

5. Major Savings. Xerographic materials cost only a few pennies per master. No special offset paper masters are needed—use any offset master material you have in stock. An operator's time is shorter: there are no critical adjustments for exposures—hence no waste. Just look at what xerography and offset duplicating are saving some of America's finest companies, large and small:

> A national refiner is saving $1,500 a month, an airline $1,000. A small insurance company is ahead $6,000 a year, a steel firm $250,000. An instrument manufacturer is saving $700 a month, an aeronautics firm $82,000 a year.

6. No Capital Investment. You can have XeroX master-making equipment at a modest monthly rental, cancellable on 15 days' notice for any reason whatsoever. Even if your volume is low, you'll find XeroX equipment practical with our unique Pay-as-You-Copy rental plan. Write today for details.

Haloid Xerox Inc., Dept. 61-208X, Rochester 3, N. Y. Branch offices in principal U. S. and Canadian cities. Overseas: Rank-Xerox Ltd., London.

HALOID XEROX®

▲ For more details circle **NED-452 D1** on enclosed inquiry slip ▲

it's NEW from Selas!

QUAL-O-RIMETER* COMBUSTION INDICATOR

Providing for accurate combustion-control, this *new* Selas instrument indicates changes in flame characteristics caused by variations in gas fuel supply and air-gas mixture. The QUAL-O-RIMETER detects and indicates changes as little as ±5 Btu in fuel gas and ±0.5% air in air/gas mixtures in seconds. What's more, changes in flame configuration are indicated just as quickly! By presampling air/gas mixtures to ovens, lehrs, furnaces and brazing machines, the QUAL-O-RIMETER permits proper adjustment of fuel ratios before production is adversely affected. For details, write for Bulletin Q-2.

SELAS CORPORATION OF AMERICA
194 Dreshertown Rd.
Dresher, Pa.

HEAT AND FLUID PROCESSING ENGINEERS
DEVELOPMENT / DESIGN / CONSTRUCTION

SELAS

*T. M. Reg. Applied For

▲ For more details circle NED-454 D1 on enclosed inquiry slip ▲

for DESIGN • PRODUCTION • DEMONSTRATION • MAINTENANCE

the NEW STROBOTAC® Electronic Tachometer

- ★ 100 Times More Light
- ★ Narrow Concentrated Beam
- ★ Direct-Reading in RPM from 110 to 25,000. Can be Used to 250,000 RPM
- ★ Measures SPEED and Permits S-L-O-W Motion Analysis of any machine
- ★ "Flip-tilt" Case Serves as Adjustable Stand and Handy Carrying Case
- ★ Built-in Panel Bulb Checks Calibration at Any Time
- ★ Weighs only 7⅛ Pounds

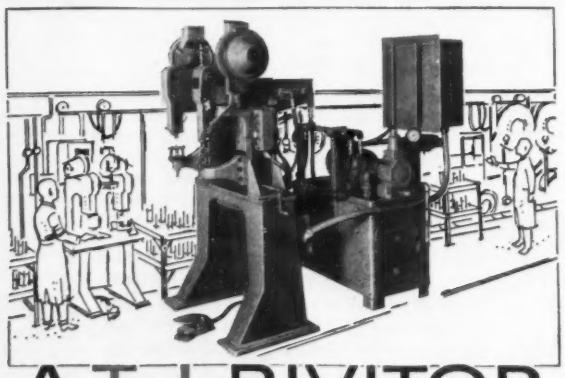
Write for the STROBOTAC BULLETIN for Details

Type 1531-A Strobotac: $260

GENERAL RADIO COMPANY
WEST CONCORD, MASSACHUSETTS

Broad Avenue at Linden, Ridgefield, N. J. NEW YORK AREA 1000 N. Seward St. LOS ANGELES 38 8055 13th St., Silver Spring, Md. WASHINGTON, D. C. 1150 York Road, Abington, Pa. PHILADELPHIA 1186 Los Altos Ave., Los Altos, Calif. SAN FRANCISCO 6605 W. North Ave., Oak Park, Ill. CHICAGO In CANADA: 99 Floral Parkway TORONTO 15

▲ For more details circle NED-455 D1 on enclosed inquiry slip ▲



A T-J RIVITOR

on your production line
means higher production rate . . . lower unit cost!

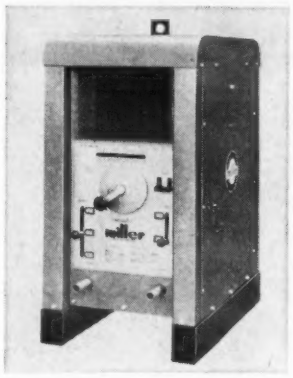
T-J Rivitors and Clinchors are designed, engineered and manufactured to conform and operate efficiently on today's high-speed production lines. For whatever your product . . . if it demands a fastening assembly procedure . . . a T-J riveting or clinching machine adds to its high quality standards by their ability in providing long, rugged service-free life.

Many standard designs to choose from . . . or a T-J can be custom designed for your exact requirements. Write Tomkins-Johnson, 2425 W. Michigan Ave., Jackson, Mich., today. Ask for Rivitor and Clinchor Bulletin No. 646 or Clinchor Bulletin No. 555.

T-J TOMKINS-JOHNSON

▲ For more details circle NED-456 D1 on enclosed inquiry slip ▲

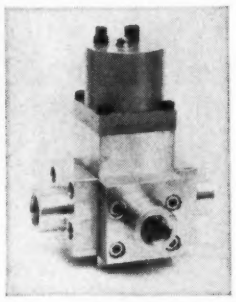
AC-DC WELDER uses single-phase service



Continuous current control is a feature of the Model MD ac-dc welder, available in 300, 400, and 500-amp sizes for single-phase service. It has an open circuit of 80 v ac and dc, plus two wide welding currents in each. Forced draft ventilation, dead front construction, and dripproof cabinet are incorporated in the unit which has a semimetallic rectifier. Straight or reverse direct current polarity is afforded. • **Miller Electric Mfg. Co.**, Appleton, Wis.

▲ For more details circle NED-457 D1 on enclosed inquiry slip ▲

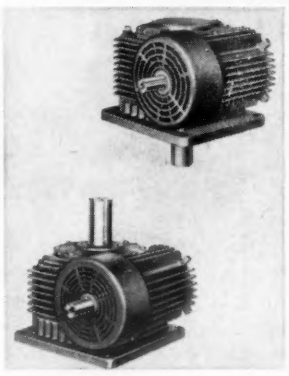
FOUR-WAY CONTROL VALVE indexed by a Midget Rotac air unit



The Spherotor four-way directional control valve for use with oils and noncorrosive fluids or lubricated air is indexed by a new Midget Rotac air unit. Supplied with 100 psi shop air, the Rotac develops sufficient torque to index the valve operating a 2000-psi hydraulic circuit. Valve has low pressure drop and a tight seal, and is made in ¼, ⅜, or ½-in. pipe sizes. • **Sarasota Precision Products, Inc.**, 5757 McIntosh Rd., Sarasota, Fla.

▲ For more details circle NED-458 D1 on enclosed inquiry slip ▲

SPEED REDUCERS rated from fractional to 175 hp



Line of fan-cooled worm gear speed reducers is available in nine sizes with 3 to 12-in. center distances and ratios from 4 1/7:1 to 95:1. Ratings are from fractional to 175 hp. Hardened worms, centrifugally cast gears, and one-piece finned housings for maximum heat dissipation are incorporated. Gear shaft bearings are grease lubricated. Dry well around the output shaft and extending above the oil level prevents oil seepage in reducers with downward shaft extensions. • **Eaton Mfg. Co.**, Cleveland Worm & Gear Div., 3300 E. 80th St., Cleveland 4, Ohio.

▲ For more details circle NED-459 D1 on enclosed inquiry slip ▲

MUST YOU GAIN SPACE yet CUT COSTS?

CONVOY'S CHEMBOARD* SELF-STACKING TOTE BOXES *MAY BE YOUR ANSWER*

Convoy Boxes are LOW COST, STRONG and LIGHT WEIGHT . . . are made in a wide range of stock sizes and shapes. They weigh and cost less than 40% of steel.

*Chem-Board is Convoy's chemically impregnated corrugated board . . . flint-hard, rock-strong.

Here's an example of Convoy Self-Stacking Boxes speeding production, conserving space, saving money.

GET IN TOUCH WITH
CONVOY, INC.
CANTON 6, OHIO
P. O. Station B, Box 216-N

STANDARD AND CUSTOM-MADE NESTING, STACKING, and VERTICAL-SIDED CHEM-BOARD TOTE BOXES

▲ For more details circle NED-460 D1 on enclosed inquiry slip ▲

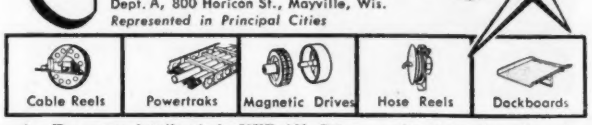
NOW... Increase Machine Production ...Improve Worker Safety

New GLEASON
ECONOREEL
AUTOMATIC CORD TAKE-UP

Longer cord service, smoother action, improved operating convenience, less production downtime — are only a few advantages of New Gleason ECONOREEL on your electric powered hoists and other equipment-in-motion. Built to outlast ordinary reels, ECONOREEL has many unique features: new heavy duty 4-pole collector and brush assembly with interlocked collector rings, safety terminal block; replaceable spring motor with adjustable tension; adjustable holding dog; prelubricated bearings; two-way payout, plus many accessories. Heavy 20 Amp. capacity, for voltages to 550 AC, 250 DC; handles 2 to 4 conductor No. 18 to 12 A.W.G. cord up to 45 feet in length.

Write for new bulletin No. R161 for illustrations and technical details.

Gleason Reel Corp
Dept. A, 800 Horicon St., Mayville, Wis.
Represented in Principal Cities

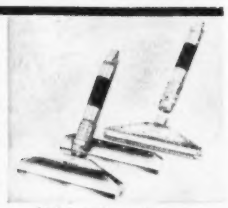


▲ For more details circle NED-461 D1 on enclosed inquiry slip ▲

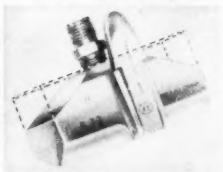
STOP GLUE WASTE
CUT MAINTENANCE
SAVE UP TO 83%

WITH FF GLUE GUNS

You can throw away your messy rolls, clogged brushes, open glue pots when you install FF glue guns. And you cut gluing costs up to 83%! Because the amazing FF system is totally enclosed, engineered to put glue exactly where you want it and in the precise amount required . . . fast, efficiently and without waste. Over 600 stocked models handle most mechanical and manual operations . . . with specials and miniatures available to meet any unusual gluing conditions. Easy to install and operate. Fully guaranteed. Thousands of enthusiastic users. Illustrated catalog available upon request. Write, wire or phone for your copy today.



Stripe-action roller gun



Roller gun, plunger actuated

Plunger-action valve body

Spot guns, machine mount

JOHN P. FOX COMPANY, INC.
1107 S. Mountain FF Monrovia, Calif.
"FF GLUE GUNS . . . since 1946"

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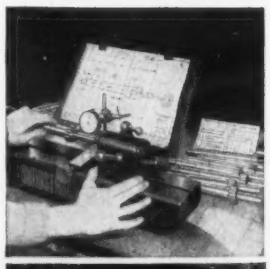
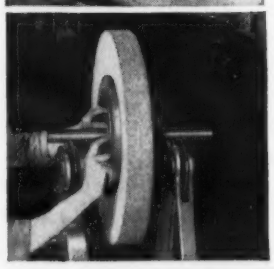
Check balance and runout accurately with Sundstrand accessories





Check Runout Within .0001" Limits on gears, sprockets, pinions, etc. Sundstrand "one-hand control" over all moveable elements leaves other hand free to control rotation of part. Standard bench centers in ten sizes range from 6" x 18" to 24" x 72".

Balance Grinding Wheels, Flywheels, Pulleys, etc., quickly and precisely on any of nine standard sizes of Sundstrand balancing tools. All but No. 5 extra-heavy duty size are portable, can be placed where needed without leveling. Capacities range from 12 to 24,000 lb. No limit on "swings" or distance between centers.

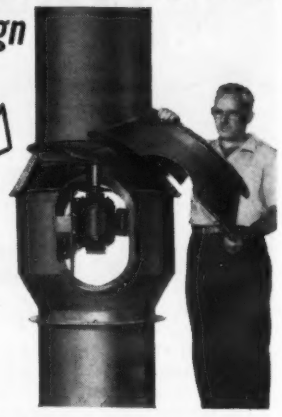
DISTRIBUTORS:
Sundstrand Bench Centers and Balancing Tools offer attractive sales opportunities. Investigate. Details on request.

SUNDSTRAND-AMERICAN BROACH
DIVISION OF SUNDSTRAND CORPORATION
ANN ARBOR, MICHIGAN

▲ For more details circle NED-463 D1 on enclosed inquiry slip ▲

CUT MAINTENANCE COSTS

with this new design duct fan



Entire half of cone comes off . . . not just an access door . . . exclusive feature

With the DE BOTHEZAT® Bifurcator® **in the duct,** the fan wheel, bearings, extension shaft and motor can be quickly inspected or removed.

can be installed like a section of ductwork Direct drive motor is isolated from fumes and heat for long, trouble-free operation. Ideal for handling corrosive fumes. **Ratings on DE BOTHEZAT FANS tell you exactly what the complete fan unit puts out. No guesswork. Write for litterature. Dept. NED-461.**

De Bothezat®

DE BOTHEZAT FANS DIVISION OF

American Machine and Metals, Inc.

EAST MOLINE, ILLINOIS

▲ For more details circle **NED-464 D1** on enclosed inquiry slip ▲

TINSLEY THICKNESS GAUGE

DUAL-SCALE

A simple and inexpensive gauge for measuring the thickness of non-magnetic coatings such as paints or plating on ferrous bases.

FEATURES

- Easy to use and carry
- Will determine thickness on radii (irregular or curved surfaces present no problem)
- Not affected by vibration and temperature—special Alcomax magnet used
- Negligible error, if any, if used in vertical upside down position, or horizontally
- Will not damage coatings
- An additional scale for special calibrations is on the reverse side of each gauge.

Range: 0.0002 to 0.015 inches (or 0-400 microns)

Mean Accuracy: ± 15% or 0.0001 inch whichever is greater.

Write for BULLETIN 28P1-D

B-608

JAMES G. BIDDLE CO.

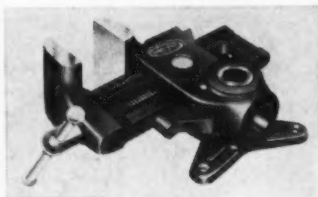
Electrical & Scientific Instruments

1316 ARCH STREET, PHILADELPHIA 7, PA.

▲ For more details circle **NED-465 D1** on enclosed inquiry slip ▲

SHOP VISE

used upright or on its side

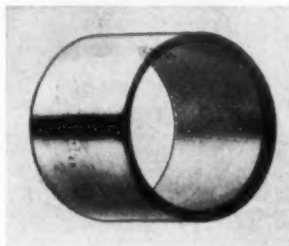


Versatility for light shop work is provided by this No. 73½ Gyro-Vise which can be used upright, laid flat on either side, or placed at any angle. It is rotated and locked in position on a base from which it can be removed for storage in a drawer or tool chest. It has 3½-in. wide by 2½-in. deep jaws which open to 5 in. Removable pipe jaws hold ⅛ to 1½-in. pipe or tube. Vise is 8½ in. high and weighs 16½ lb. • **Columbian Vise & Mfg. Co.,** 9023 Bessemer Ave., Cleveland 4, Ohio.

▲ For more details circle **NED-467 D1** on enclosed inquiry slip ▲

STAINLESS STEEL BUSHINGS

have reinforced Teflon inserts



Low friction of Fluor-O-Bearing stainless steel bushings is attributed to the reinforced Teflon insert permanently bonded to the inside diameter. Bushings minimize the torque required to turn a shaft. Glass cloth encapsulated in the Teflon insert increases wear characteristics and eliminates cold flow. Made to customer requirements, bushings are particularly suited for applications involving liquid oxygen or other exotic fluids. • **Fluorocarbon Co.,** 1754 S. Clementine Ave., Anaheim, Calif.

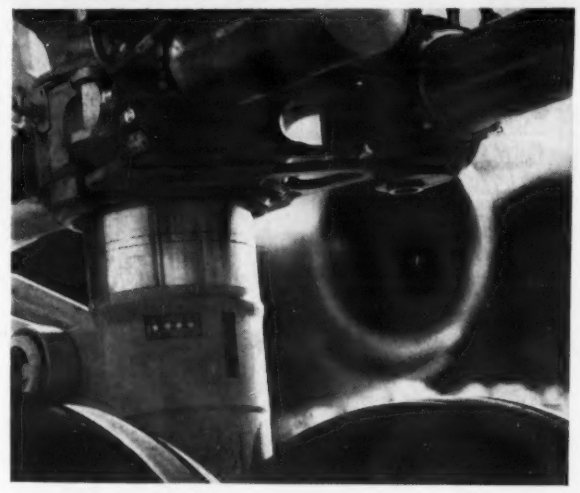
▲ For more details circle **NED-468 D1** on enclosed inquiry slip ▲

PLUG-IN ELECTRIC HEATERS

for preheat, postheat, annealing use

Metal temperatures of 1400° F and higher are attained and automatically held at predetermined levels with Heatrol electrical resistance type heaters. Used in preheat, postheat, and stress relief annealing in welding of alloy steels, the plug-in units can stay in operation even during welding. Full length elements eliminate "cold spots" and make close contact with weldments of various sizes and shapes. Automatic time-temperature controls hold preset heat treating programs. Molded neoprene distribution equipment includes polarized plugs and receptacles. Standard units include 12, 18, and 36-in. strip heaters and pipe heaters for diameters down to 3 in. • **J. B. Nottingham & Co.,** 441 Lexington Ave., New York 17, N. Y.

▲ For more details circle **NED-469 D1** on enclosed inquiry slip ▲



HOW DOUGLAS DETECTS DC-8 HOT SPOTS

Temp-Plates detect overheating on the Douglas DC-8 jet transport, just as they do in many other vital applications throughout industry. Simple, positive, easy to use, the Temp-Plate is the little plastic tab that sticks on almost any surface, turns black when the temperature reaches any desired value between 100° and 1,100°F. Temp-Plate is accurate to ± 1%, impervious to shop and flight line atmospheres.

60 temperatures, several tab sizes.

TEMP-PLATE/Pyrodyne, Inc.

11973 San Vicente Blvd.

Los Angeles 49, California

▲ For more details circle **NED-470 D1** on enclosed inquiry slip ▲

▲ For more details circle **NED-466 D1** on enclosed inquiry slip ▲

▲ For more details circle **NED-471 D1** on enclosed inquiry slip ▲

NEWS from the NRC Vacuum MICRONICLE*

New 6″ vacuum pump —70% more speed— no loss of reliability

Upgraded performance is but half the story on the new NRC Model H6-1500. Compared with its predecessor it assures: *Speed* — 1500 l/s, up 70%. *Forepressure Tolerance* — 700 microns, up 275%. *Backstreaming* — less than 0.03 mg/-cm²/min, down 40%. *Height* — 18½″, down 34%. *Blank-off* — as low as 10^{-10} mm Hg in trapped UHV system.

The other half is the way it can do all this without carefully regulated power and water supplies, oversized backing pumps, delicate pump oils, or frequent maintenance. Stainless steel body — 4-stage fractionating jet assembly (securely anchored yet demountable in 15 sec.) — easily removable, long-lived "cast-in" heater — silver soldered cooling coils — all keep operating and maintenance costs low. Original cost is low, only $525.

*Send for FREE periodical containing details on H6-1500 and other news about high vacuums. Dept. 29-D, 160 Charlemont St., Newton 61, Mass.

NRC EQUIPMENT CORPORATION

A Subsidiary of National Research Corporation

NE 0-17

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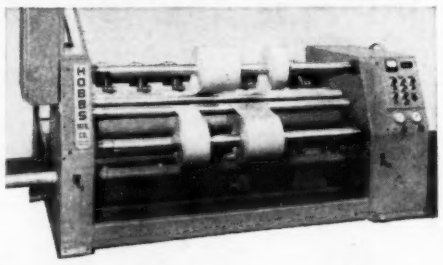
HOBBS *Slitter Line*

SIZES — 30″ to 72″

precisely fits every need

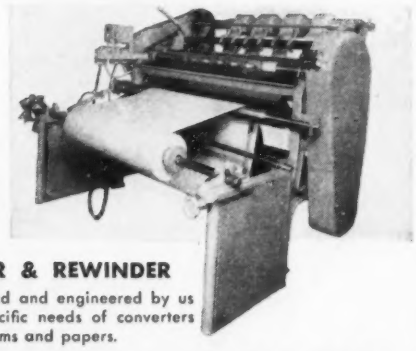


72″ SLITTER & REWINDER

Engineered by us for specific needs of a major foil company, processing PVC film.

MEDIUM SIZE SLITTER & REWINDER

Engineered by us for a major paper converter, processing paper to be slit and rewound to varying widths and diameters.



30″ SLITTER & REWINDER

Moderately priced and engineered by us to meet the specific needs of converters for processing films and papers.

Tell us your slitting-rewinding needs

Our basic Hobbs Line includes slitters from 30″ to 72″, with speeds 200′ to 1,000′ per minute — at prices from $2,500 to $25,000 — to slit various materials from PVC film to paper. To meet your needs, we engineer your Hobbs Slitter-Rewinder installation so that "the equipment grows out of the job" — doing your work as specified.

Slitter bulletin on request.

HOBBS

Winders • Hand & Power Shears
Slitters • Die Presses
Automatic Cutters

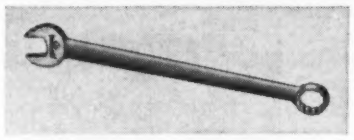
Manufacturing Company
41D Salisbury St., Worcester 5, Mass.

Branch Offices & Representatives in Irvington, N. J., Chicago, Cleveland, Greenville, S. C., Louisville, Toronto and other principal cities.

144-9

▲ For more details circle **NED-473 D1** on enclosed inquiry slip ▲

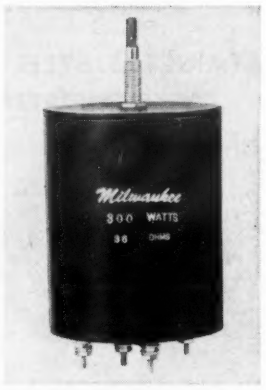
OPEN END-BOX WRENCHES line has 24 extra-long sizes



Additional leverage required to loosen tight nuts and bolts is obtained by using Armaloy extra-long combination open end box wrenches. Line includes 24 sizes with nominal openings ranging from ⅜ to 2 in. Lengths are from 7 to 30 in. • **Armstrong Bros. Tool Co.,** 5200 W. Armstrong Ave., Chicago 46, Ill.

▲ For more details circle **NED-474 D1** on enclosed inquiry slip ▲

POWER RHEOSTAT in 100, 200, and 300-w sizes



Enclosed, dustproof power rheostat with push-pull action adapts to any linkage for either manual or automatic operation. Unit is available with standard or tapered windings, also with center tap, in 100, 200, and 300-w sizes. Unusual construction of the rheostat enables it to be used at full wattage rating with as little as 25 per cent of its windings in use. Two brushes assure fine adjustment. • **Milwaukee Resistor Co.,** 700 W. Virginia St., Milwaukee 4, Wis.

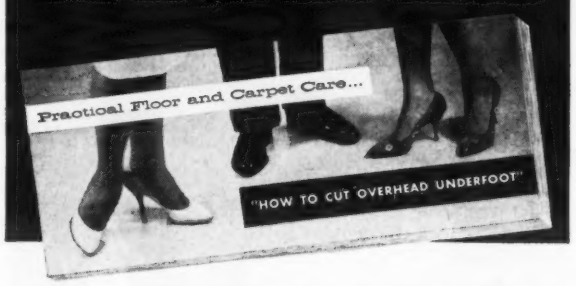
▲ For more details circle **NED-475 D1** on enclosed inquiry slip ▲

HEAVY-DUTY RIDING MOWER 12.9-hp unit has wide tread wheels

Large area grass and weed mowing jobs are handled by the extra heavy-duty Super 60 riding mower. Unit features a 12.9-hp engine, large wheels, and a wide wheel tread for maximum flotation in marshy or sandy soil and good holding power on steep grades. The easy-to-operate unit has three high-speed 20-in. blades which cut smoothly and cleanly. Mowing deck which can be raised for 1 to 7-in. cutting height is designed to prevent scalping. Features include a torque converter drive, recoil starter, and a rear hitch for pulling gang mowers, aerator, utility cart, or lawn roller. Other attachments are available. • **Pennington Mfg. Co.,** Addison, Ill.

▲ For more details circle **NED-476 D1** on enclosed inquiry slip ▲

FREE! New Floor and Carpet Care Manual



This colorful manual will help you solve most any floor and carpet maintenance problem. It contains illustrated, step-by-step instructions on how to clean and maintain 10 different types of the most popular hard and resilient floors. It tells how to shampoo carpets; how to select proper equipment, cleaners, waxes, and finishes; how to treat common floor failures. It also contains suggestions on floor safety, tips on floor and carpet stain removal, and explains how to set up proper job time requirements and use work planning schedules.

Send for your free copy today. It's yours for the asking from the makers of Advance Floor Machines.

ADVANCE

ADVANCE FLOOR MACHINE CO.
120 Industrial Center
Spring Park, Minnesota

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Hardness Readings in 2 seconds!

Webster

PORTABLE Hardness Testers FOR NON-FERROUS METALS

TWO LOW-COST MODELS differing in sensitivity for rapidly testing hardness of aluminum, brass, copper, etc. No training required; one hand operation. Hardness readings in 2 seconds anywhere in shop. Can be correlated to standard hardness scales. Quick reading dial. Special anvil design tests all shapes: sheets, extrusions, tubing, strip stock. Capacity ¼″. Simple, rugged design, easy maintenance.

MODEL B Direct hardness readings on all aluminum alloys.

MODEL B-75 Direct hardness readings on copper, brass, etc.

Other models available

WEBSTER INSTRUMENTS, INC. Dept. N, 11856 Mississippi Ave. Los Angeles 25, California

▲ For more details circle **NED-479 D1** on enclosed inquiry slip ▲

NEW OSBORN POLISHING/BUFFING LATHES

. . . are compact, variable speed lathes engineered by Osborn to handle your work economically at peak efficiency. Available with balanced single or double spindles, fixed or variable speed ranges from 600 to 3600 rpm. Variable speed lathes have 3-to-1 speed range. Choice of 3, 5 or 7½ hp motors. Other features include: motor-mounted magnetic disc brakes for instantaneous spindle stopping. Roto-Cone drive for instant, vibration-free power transmission and speed changes.

FREE BULLETIN 620 includes full specifications, operating and application data. For your copy, write or call *The Osborn Manufacturing Co., Dept. N-24, Cleveland 14, Ohio. Phone ENdicott 1-1900.*

Metal Finishing Machines ...and Finishing Methods Industrial Brushes Foundry Production Machinery

OSBORN

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HOBART **"MANUMATIC"**

Feeds wire automatically for
OPEN OR SUBMERGED ARC WELDING

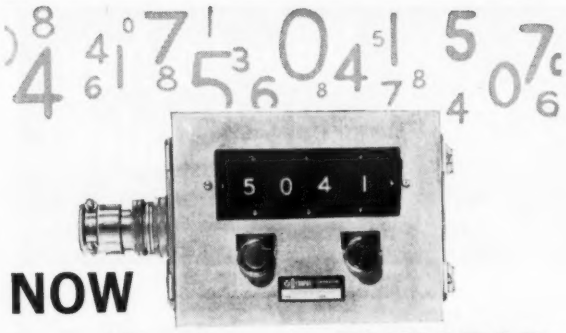
- Easily connects to your AC or DC welder
- Cuts deposition costs on hardsurfacing buildup and regular mild steel welding
- Attains high deposition rates (260 IPM)

for more complete details write to

HOBART BROTHERS CO., Box ND-41, Troy, O.

'Manufacturers of world's most complete line of arc welding equipment'

For more details circle NED-480 D1 on enclosed inquiry slip



NOW

Louis Allis offers you DYNAPAR* Digital Control Systems!

Besides motors, drives, and controls, Louis Allis now furnishes DYNAPAR Digital Control to give visual readout and process control signals for any production process. The highly accurate digital systems are ideal for high-speed counting; measuring speed and draw; automatic positioning and cutting-to-length; totalizing; timing; controlling, etc.

DYNAPAR digital devices do not drift. There's no need for constant calibration and adjustment. Solid-state transistor circuits provide long-life operation without maintenance. Luminous direct readouts are easy to read.

Up output, cut waste. Automate with DYNAPAR Digital Control. Call your Louis Allis District Office, or write to The Louis Allis Co. 436 E. Stewart St., Milwaukee 1, Wis.

LOUIS ALLIS

*Dynapar Corporation is the electronic subsidiary of The Louis Allis Co.

For more details circle NED-481 D1 on enclosed inquiry slip

PLATECOIL®

FOR ALL KINDS OF TANK AND PROCESS HEATING AND COOLING

- Built to fit application requirements
- High heat transfer capacity
- Compact units save space
- Easy to install
- Easy to remove for cleaning
- Available in variety of weldable metals
- Operating Pressures up to 250 psig.

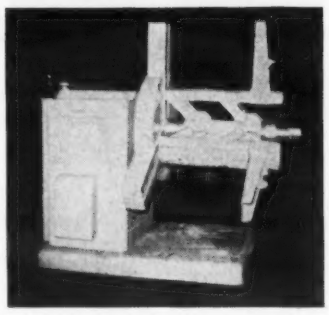
Send for Bulletin P57

PLATECOIL® DIVISION

TRANTER MANUFACTURING, Inc., LANSING 9, MICHIGAN

For more details circle NED-482 D1 on enclosed inquiry slip

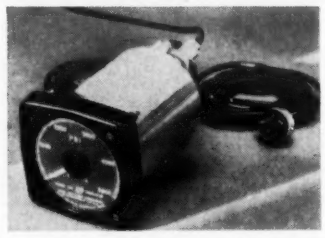
COILED STEEL REELS
1000 to 30,000-lb capacities



Variable speed drives and both manual and hydraulic expanding arbors are available on this line of heavy duty reels for coiled steel. The Timken bearing equipped units are made with capacities from 1000 to 30,000 lb. All motors and running gears are mounted in the welded steel base. • **American Steel Line Co.**, 201 Front Ave. S.W., Grand Rapids 4, Mich.

For more details circle NED-483 D1 on enclosed inquiry slip

REMOTE PRESSURE INDICATOR
operates in ranges to 10,000 psi



Indication of gas or fluid pressure, thrust, and torque measurements at distances up to ½ mile is possible with this improved Teledyne 236 pressure Indicator (*NED*-June '60). It can be calibrated to operate in 12 ranges from 0-50 to 0-10,000 psi, and consists of a voltage-regulated power supply for excitation of the strain gage, and amplifier power supply, and a transistor amplifier. It is used with Teledyne bonded strain gage pressure transducers and operates on 115-v ac. • **Taber Instrument Corp.**, 107 Goundry St., North Tonawanda, N. Y.

For more details circle NED-484 D1 on enclosed inquiry slip

ABSOLUTE FILTER
recovers radioactive, toxic matter

Efficiency of 99.97 per cent is obtained when Vac-U-Max Absolute filter units are used in conjunction with standard Rhino Cloth bag type filters in the recovery of radioactive and toxic materials, dusts, and fluids. They remove particle sizes down to 0.3 micron, and both the primary and absolute filters are readily replaced. Standard AF air-powered vacuum exhausters are available in 30 or 55-gal capacities. Adapter units can be supplied to fit on 30 or 55-gal drums. • **Vac-U-Max Co.**, 1 Montgomery St., Belleville 9, N. J.

For more details circle NED-485 D1 on enclosed inquiry slip

Laboratory Ovens

- Designed To Meet Class 1 Group D Hazardous Locations
- "Blow-out" Panel
- Controlled Exhaust

SAF-T-BILT 1000° F. MAX. ELECTRIC OVEN

Available in temperature ranges from 500° F. maximum to 1000° F. maximum. Saf-T-Bilt Ovens provide precision heat control accuracy and maximum safety from explosion. Built for use with liquids, gases and volatile solids with explosion relief panel and forced exhaust system to dissipate volatile substances from work chamber. Special vapor tight conduit fittings and explosion proof housings for controls and contactors are provided to eliminate open arc. Heater units are remote from work chamber and insulated by use of diffuser plate.

Write today for bulletin 203-1 HJ for complete information on Saf-T-Bilt Ovens.

DESPATCH OVEN CO.

DESPATCH OVEN CO. 619 S.E. 8th St., Minneapolis 14, Minn.

For more details circle NED-486 D1 on enclosed inquiry slip

SIMPLIFY YOUR FASTENINGS
to cut Assembly Costs!

PALNUT FASTENERS provide vibration-proof assemblies, with savings in costs—parts—operations—space—weight—assembly time

•

SEND FOR CATALOGS Describe application for Free Samples.

With low-cost, spring tempered steel PALNUT Fasteners you can replace bulkier tapped nuts—eliminate extra lockwashers, flat washers, sealer washers, cotter pins—or save the cost of threading, drilling holes and annular grooving. All PALNUTS are very low priced, assemble fast with manual or power tools, keep parts tight. Line includes lock nuts for threaded members; self-threading nuts and PUSHNUTS* for unthreaded members.

*Trademark

THE PALNUT COMPANY, 45 Glen Road, Mountainside, N. J.
DIVISION OF UNITED-CARR FASTENER CORPORATION
Canada: P. L. Robertson Mfg. Co., Ltd., Milton, Ont.

PALNUT® Lock Nuts and Fasteners

for quick, secure fastening at low cost

For more details circle NED-487 D1 on enclosed inquiry slip

Send for your copy TODAY!

for the asking

Answers your questions on

CONVEYOR AND ELEVATOR BELTING

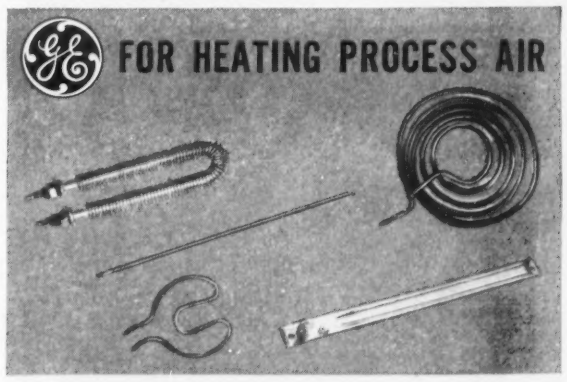
You can be a real expert on conveyor and elevator belting with this 28 page booklet. Includes many reference tables and other data to help you choose the proper belting for each service. Complete information on each of the many belts made by Republic Rubber.

REPUBLIC RUBBER DIVISION

LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO

INDUSTRIAL RUBBER PRODUCTS

For more details circle NED-488 D1 on enclosed inquiry slip

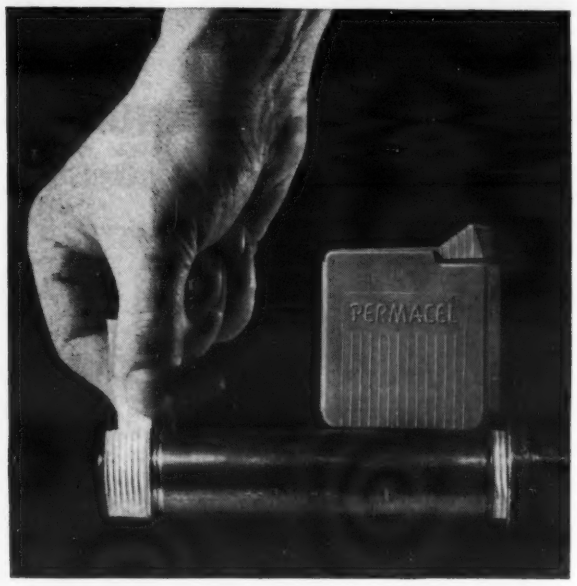


FOR NATURAL OR FORCED CONVECTION HEATING . . . there is a wide variety of General Electric heaters to meet your process air applications. You can select from many sizes and ratings in tubular, finned tubular, strip, and vane heaters. These long-life, Calrod® heaters are only part of General Electric's complete line of heating equipment.

FREE 48-PAGE CATALOG with completely indexed heaters and heating control prices, application tips, tables and curves. Write Section 757-03, General Electric Company, Schenectady 5, N. Y.

GENERAL ELECTRIC

For more details circle NED-489 D1 on enclosed inquiry slip



RIBBON DOPE (trademark) Thread Sealant by Permacel—the self-lubricating, universal sealant made of pure Teflon* for all threaded connections, metal or plastic . . . including oxygen breathing apparatus.

*Du Pont trademark

PERMACEL® NEW BRUNSWICK NEW JERSEY

Tapes • Electrical Insulating Materials • Adhesives

▲ For more details circle **NED-490 D1** on enclosed inquiry slip ▲

Here's **SUPER-POWER** for Better Lawn Care and Every-Season Use

New *Spinaway* Heavy Duty **42" RIDING MOWER**

Check its *new* features: free-floating cutting unit avoids scalping . . . can't tip . . . quick, measured height adjustment . . . High Suction for smooth cutting . . . Mower operates independent of travel . . . Automotive type transmission and steering . . . Powerful 9.2 H. P. . . . 3 speeds forward, and reverse. Electric starter optional. "Pat Pend." Phone or write for prices

"The Mower with the Most Tomorrows"

HAL-GAN PRODUCTS, Inc. Dept. NED, 13000 W. Blue Mound Road Elm Grove, Wisconsin

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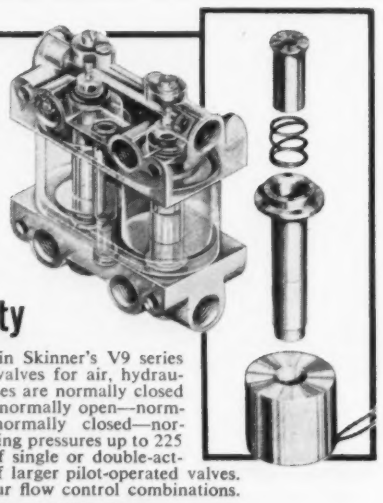


SKINNER 4-way solenoid valves built for accuracy, dependability

Three basic types in Skinner's V9 series of 4-way solenoid valves for air, hydraulic oil and inert gases are normally closed—normally closed, normally open—normally open, and normally closed—normally open. Operating pressures up to 225 PSI. For control of single or double-acting cylinders, or of larger pilot-operated valves. Your option of four flow control combinations.

- **Precise flow control**—by adjustable metering
- **Compact, direct acting**—two 3-way valves in one housing
- **Durable and corrosion resistant**—stainless steel internal parts
- **Leakproof, bubbletight sealing**—soft, synthetic inserts
- **Positive operation mounted in any position**—spring-loaded plungers
- **Underwriters approved**—wide selection of coils, voltages and frequencies
- **Wired from front or rear**—housing easily reversed
- **Adaptable to many uses**—optional porting arrangements

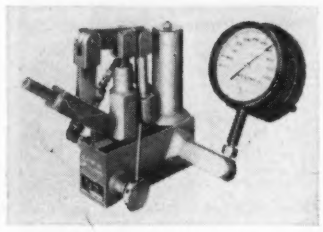
For complete information, contact a Skinner Distributor listed in the Yellow Pages or write us at Dep't. 434.

SKINNER ELECTRIC VALVES

THE CREST OF QUALITY — SKINNER ELECTRIC VALVE DIVISION, SKINNER PRECISION INDUSTRIES, INC. • NEW BRITAIN, CONNECTICUT, U.S.A.

▲ For more details circle **NED-492 D1** on enclosed inquiry slip ▲

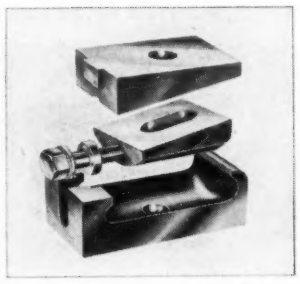
MANUAL HYDRAULIC PUMP develops pressures to 50,000 psi



Designed primarily for high pressure hydrostatic testing, this hand-operated hydraulic pump will develop and hold pressures up to 50,000 psi. A compound leverage system is used. It has a 3/8-in. piston and a 3/4-in. stroke, with bubble-tight self-sealing valves and release screws. The piston, valve block, and barrel are heat treated alloy steel. • **Wm. S. Pine, Inc.**, 1635 E. 22nd St., Los Angeles 11, Calif.

▲ For more details circle **NED-493 D1** on enclosed inquiry slip ▲

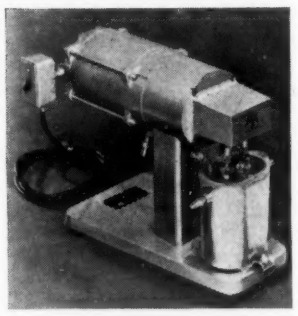
MACHINE LEVELING JACKS have capacities to 20,000 lb



Up to 1/4 in. vertical adjustment is provided by the Style J-H leveling jacks for machine tools, automation equipment, and other tool room and production equipment. Two inter-acting inclined planes give smooth upward or downward control without lateral movement. Used at corners, centers, or along an entire machine base, they have a hex head adjusting screw and a self-compensating base which counteracts floor unevenness. Anchor bolts, where required, pass through the entire jack assembly. Auxiliary vibration absorbing mounting pads are optional. • **Enterprise Machine-Parts Corp.**, 2732 Jerome St., Detroit 12, Mich.

▲ For more details circle **NED-494 D1** on enclosed inquiry slip ▲

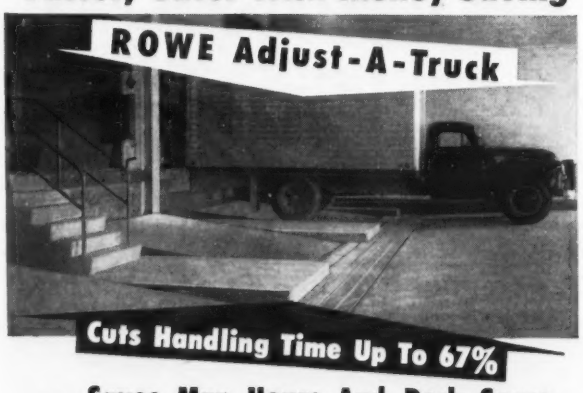
LABORATORY MIXER speed adjusts from 50 to 250 rpm



Closely controlled mixing of high-viscosity fluids and castable polymers is possible with this Model 60 LP vertical laboratory mixer. Two synchronized intermeshing blades and close chamber tolerance assure intimate mixing. The mixing chamber has vacuum connections and is jacketed for operating at preselected temperatures under thermocouple control. Batches as small as 0.1 qt can be mixed in the 1-qt or 60-cu in. two-cell chamber at controlled mixing speeds from 50 to 250 rpm. • **Atlantic Research Corp.**, Alexandria, Va.

▲ For more details circle **NED-495 D1** on enclosed inquiry slip ▲

Move Greater Pay Loads . . . Faster, Safer With Money Saving



. . . Saves Man Hours And Dock Space

■ Here's the low cost answer to positioning any highway carrier to proper dock height when it is impossible to use dock leveling ramps because of construction or space limitation. This 40,000 lb.-capacity hydraulic truck leveling device has 24" up-down travel and features: Low Initial, Installation and Operating Cost • Short Amortization Period • Rugged Construction for Long-Life Service • Minimum Maintenance • Exceptional Ease of Operation.

Write for our new folder—It's free of course

Planning service available without cost or obligation.

ROWE METHODS, INC.

2534-E Detroit Ave. • Cleveland 13, Ohio

▲ For more details circle **NED-496 D1** on enclosed inquiry slip ▲

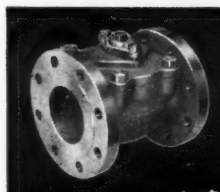
NEW "one-gun" airless spray outfit just $335.80*

Here's a new portable airless unit designed for maintenance jobs that call for mobility, and for limited-production painting. The complete DeVilbiss airless outfit—pump, regulator assembly, airless gun, hose—costs just $335.80.* Powered by a proved air motor, the pump includes a sturdy lid with wing screws, 5-gallon material pail, and carrying handle. Comparison shop on a price/performance basis. Then call your DeVilbiss supplier. The DeVilbiss Company, Toledo 1, Ohio.

*Slightly higher in West.

FOR TOTAL SERVICE, CALL **DEVILBISS**

▲ For more details circle **NED-497 D1** on enclosed inquiry slip ▲



How to buy a ball valve!

Check these features!

	FLO•BALL	VALVE A	VALVE B	VALVE C	VALVE D	VALVE E
1. TOP ENTRY	√			√		
2. IN-LINE MAINTENANCE	√			√	√	
3. TOP AND BOTTOM GUIDED BALL	√					
4. DOUBLE SEATS	√	√	√	√	√	√
5. FLANGES INTEGRAL WITH BODY	√	√		√		
6. ONE-PIECE BALL AND STEM	√					
7. BLOCK AND BLEED	√					
8. COMPETITIVELY PRICED	√	√	√		√	√

Only FLO·BALL has all 8

See your local distributor for details and prices on a wide variety of flanged (1" through 14") and screwed end (1/8" through 2") **FLO•BALL** valves; or write to:

Hydromatics, Inc.

BLOOMFIELD, N. J. • PILGRIM 8-7000 • TWX = BLOOMFIELD, N. J. 120

▲ For more details circle **NED-498 D1** on enclosed inquiry slip ▲

JUST WON'T SLIP! STYLE NO. 411

The rough finished latex coating of this Granet **SLIP-NOT** glove provides thousands of gripping edges that really bite . . . like a tread on a tire. It just won't slip! A rugged, general purpose work glove . . . ideal for handling lumber, concrete, metal, glass and other 'hard-to-handle' materials.

Whether you are concerned with grease, chemicals, mechanical abrasion or other hand protection needs, check the Granet Line of gloves first.

Write . . . on your letterhead for a free pair. Test them yourself!

Granet Gloves . . . manufactured under stringent quality control methods . . . are guaranteed as first quality.

THE GRANET CORP.

25 LORING DRIVE, FRAMINGHAM, MASS.

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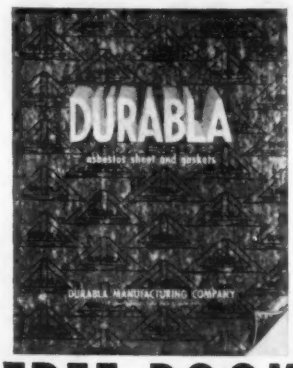


FREE BOOK

on the all-purpose gasket material

DURABLA Homogeneous Compressed Asbestos Sheet Packing is a *single-formula material* that can be used for sealing nearly all oils, gases, alkalies, acids and hydrocarbons. Suitable for a wide range of temperature-pressure combinations, it has been proved in service for 50 years.

Send, today, for free booklet, which describes DURABLA sheet packing and cut gaskets. Ask for bulletin NED 41.

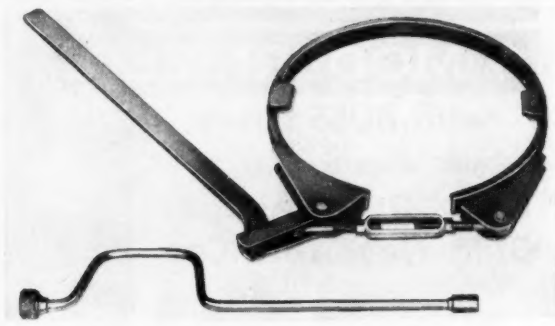
DURABLA MANUFACTURING COMPANY
114 Liberty Street, New York 6, New York

DURABLA®

DM-41

For more details circle **NED-500 D1** on enclosed inquiry slip

DRUM PARTS CLOSING TOOL
Speeds Open Head Drum Closures



A simple, quick-acting closing tool, so efficient, so easy-to-use it will speed closure of all types of open head drums—especially the outstanding locking rings developed by Drum Parts, Inc. These include:
PLAIN LUG RINGS • OVERLAPPING RINGS
WELD NUT RINGS

***Complete Catalog* illustrates and gives full details for closing tools, rings and accessories to fit all drum closing needs. Send for your copy today.**

DRUM PARTS, INC.
10311 Meech Ave. Cleveland 5, Ohio

For more details circle **NED-501 D1** on enclosed inquiry slip

NEW "CUSTOM" MULTI-USE PUMP

—handles FOUR different fluids or gases at one time!

NO CLEAN-UP REQUIRED

—to change materials or color as pump parts do not contact the fluids or gases

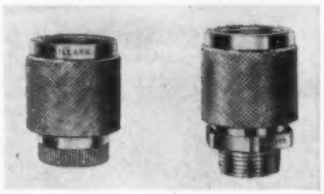
Ideal for plants pumping glue, inks, acids or other liquids up to 30 gallons per hour, and in laboratories where controlled quantities must be pumped. Pumps operate quietly; seal off when stopped; flow rate of each station can be controlled separately. Pumps will also handle gases at same volume rate as liquids. Explosion-safe, fully enclosed motor; air motor or shaft drive available. Pump features lightweight, aluminum construction and is completely portable.

Call or write for illustrated bulletin and prices. Mention drive desired, length of tubing required, viscosity of fluids or type of gases handled.

CUSTOM MACHINE COMPANY
119 HIGHLAND PARKWAY, ROSELLE, NEW JERSEY
Telephone CHestnut 1-2980

For more details circle **NED-502 D1** on enclosed inquiry slip

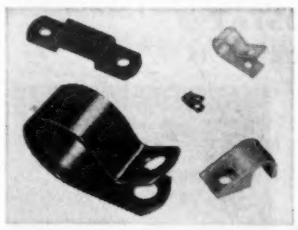
ALUMINUM CONDUIT UNIONS
have minimum diameter and length



Line of explosionproof, all-aluminum unions for ½ through 2-in. conduit features the smallest diameter and shortest length possible to allow placing conduit close together, as well as nearly flush with walls. Tapered body and ring provide a positive seal if interior explosion occurs. Line is comprised of the EUF Series with female ends, and the EUM Series with male and female ends. Knurled locking sleeve assures good wrench grip. • **Killark Electric Mfg. Co.**, 3940 Easton Ave., St. Louis 13, Mo.

For more details circle **NED-503 D1** on enclosed inquiry slip

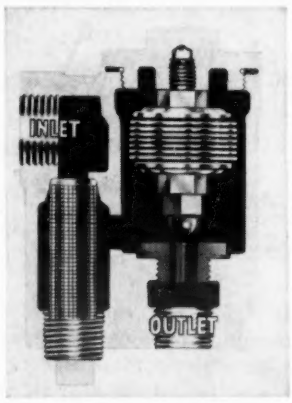
NYLON CABLE CLAMPS
for 1/16 to 1 3/4-in. diameters



Made of tough, durable, nonconducting nylon, this expanded line of cable clamps is suited for service from −60 to 275° F when subjected to load. Smallest unit, the Type J, will hold a 1/16-in. diameter or smaller cable firmly. The largest is Type 9 for holding cable or bundle diameters up to 1¾ in. New types and sizes for special applications include flat clamps, molded half clips, and snap clips. Clamp widths range from 0.160 to ⅞ in. Material use is solvent resistant and unaffected by petroleum oils and greases up to 300° F. • **Weckesser Co.**, Dept. ND-5, 5701 Northwest Highway, Chicago 46, Ill.

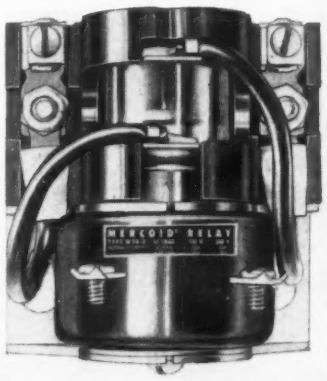
For more details circle **NED-504 D1** on enclosed inquiry slip

STEAM TRAP
has integral Monel strainer



A Monel strainer is built into the Series AS bellows thermostatic type steam trap to reduce installation and maintenance costs. The freezeproof unit is suitable for steam pressures to 250 psi and temperatures to 450° F. Another feature permits two changes of direction to reduce the effect of shock loading. A connection for strainer blowdown is also provided. Bellows is available in bronze or Monel. • **Clark Mfg. Co.**, 1836 E. 38th St., Cleveland 14, Ohio.

For more details circle **NED-505 D1** on enclosed inquiry slip



35 AMP
Plunger Type
MERCURY RELAY

If you need reliability and durability, this quality built relay by Mercoid is your answer.
For heavy duty loads, such as resistance heating, (domestic, commercial, industrial)—heat treating furnaces, drying equipment, welding, lighting, illuminated signs, score boards.
Hermetically sealed mercury to mercury contact provides visible on-off operation. Silent and chatterless. Quickly mounted, easily wired. Speeds up to 100 operations per minute.

CONTACT RATING

LOAD	AC	DC
120V.	30A.	15A.
240V.	20A.	10A.
440V.	8A.	—

***NON INDUCTIVE HEATER LOADS**

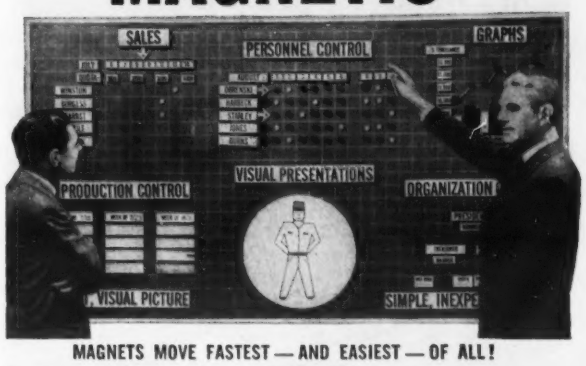
AC ONLY	
120V.	35A.
240V.	25A.
440V.	10A.

Write For Bulletin 0-20

THE MERCOID CORPORATION
4211 Belmont Ave., Chicago 41, Ill.

For more details circle **NED-506 D1** on enclosed inquiry slip

VISUAL MAGNETIC CONTROL



MAGNETS MOVE FASTEST — AND EASIEST — OF ALL!

SIMPLEST VISUAL SYSTEM FOR
- Production
- Personnel
- Sales
- Maintenance
- Scheduling
- Machine Loading
- Charts—Graphs
- Visual Presentations

COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
- get the job done

PRICED FROM **$38** INCLUDING MAGNETIC ELEMENTS

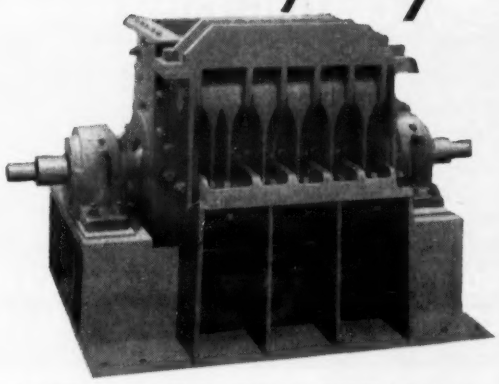
PRICE LIST & BROCHURE NE4
FREE
ON REQUEST

REPRESENTATION DESIRED IN SOME AREAS

Methods Research Corp.
105A Willow Ave., Staten Island 5, New York

For more details circle **NED-507 D1** on enclosed inquiry slip

HOG GRINDS *Anything!*



The NEW KC MODEL of the Montgomery BLO*HOG grinds bark—bricks — wire and steel strapping — nails — bolts — rubber tires — paper — plaster board — tile — dunnage — Crossties with Spikes —and many other items for fuel or automatic waste disposal systems.

Sizes range from 21" with capacity near 20,000 lbs. per hour to 57" model with 100,000 lbs. per hour capacity.

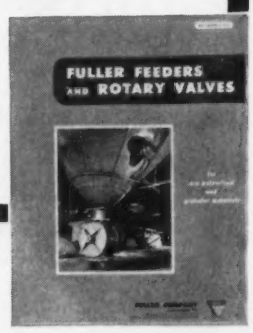
BUILT-IN PROTECTION AGAINST HEAVY TRAMP STEEL. PUNCH AND DIE ACTION — "DO THE JOB" GUARANTEE.

Manufactured by
JACKSONVILLE BLOW PIPE CO.
P.O. Box 3687 • Jacksonville, Florida
Telephone EL 5-5671

For more details circle **NED-508 D1** on enclosed inquiry slip

NEW BULLETIN FEATURES ROTARY VALVES & FEEDERS

Fully illustrated . . . includes drawings and specifications, complete information . . . FREE!



Fuller Rotary Valves and Feeders have offered a standard of quality and performance for more than 30 years.
They are designed and constructed for handling dry bulk materials at a saving, because of their excellent design and durable, precision construction.
Their many desirable features are described in Bulletin F5-A, just printed. It's worth writing for, and it's FREE.

2617
F 23

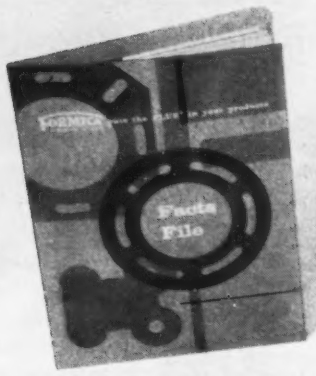
FULLER COMPANY
154 Bridge Street
Catasauqua, Pa.

Fuller

SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
Offices in Principal Cities Throughout the World
"See Chemical Engineering Catalog for further details and specifications."

For more details circle **NED-509 D1** on enclosed inquiry slip

SAVE MORE
with molded parts that
DO MORE



FREE FACTS FILE SHOWS YOU HOW

FORMICA Industrial Plastics

High strength Formica thermosetting molded plastic parts *do more* by combining several properties and functions. You *save more* on sub-assembly, materials, machining and replacement. Facts File contains further information...write for your free copy now! Formica Corporation, 1551 Spring Grove Ave., Cincinnati 32, Ohio.

subsidiary of Cyanamid CYANAMID

For more details circle NED-510 D1 on enclosed inquiry slip

NEW! Announcing a full line of
PERMATEX
COATING COMPOUNDS
(stronger than concrete)

- Easily applied — trowel, brush or spray
- Four special products to meet every need
- Four attractive colors
- Covers metal, wood, concrete
- Economical — one single coat protects
- Resists chemicals, solvents, water, wear

PRODUCED BY THE WORLD'S LEADER IN SEALANTS...PROVEN BY PERFORMANCE!

FREE LITERATURE AND TECHNICAL ASSISTANCE . . . WRITE NOW!

This line of Permatex Coating Compounds, as all Permatex Products . . . sealants, adhesives, lubricants, degreasers, solvents . . . are available from quality Industrial Distributors.

PERMATEX COMPANY, INC.
DPT. NEDIR • 300 BROADWAY • HUNTINGTON STATION, L. I., N. Y.
FACTORIES: BROOKLYN 35, N. Y. • KANSAS CITY 15, KANSAS
SEALANTS • ADHESIVES • LUBRICANTS

For more details circle NED-511 D1 on enclosed inquiry slip

Get safe, maintenance-free plant heating with

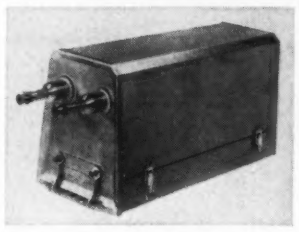
Perkins AIRadiators operate on hot water or steam up to 150#. No motors, fans, or other moving parts that can cause sparking, or wear out—Perkins AIRadiators are maintenance-free, built to last the life of your plant. Heat is evenly distributed—quietly, without drafts or hot blasts.

Write for Bulletin V
. . . Learn how Perkins AIRadiators can give you better plant heating—at low cost.

SHAW PERKINS MFG. CO.
Properly Designed Room Heat Distribution Equipment
201 E. CARSON ST., PITTSBURGH 19, PENNA.

For more details circle NED-512 D1 on enclosed inquiry slip

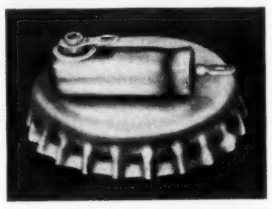
PORTABLE DENSITOMETER
continuously weighs flowing liquids



Sensitivity or specific gravity range of the Model 1005-OA densitometer is adjustable to practically any requirements. The portable, pneumatically actuated instrument continuously indicates the specific gravity of flowing fluids, and can be installed in conjunction with any flowline where such indication is desired. Used as a by-pass, one unit can serve several flowline locations. The densitometer will handle such fluids as drilling muds, coatings, additives, and others accurately within ±1 per cent with fluid pressure to 150 psi and temperatures to 300° F. Air requirement is 0.1 cfm; air supply pressure, from 15 to 400 psi. • **Bell Corp.**, Odessa, Tex.

For more details circle NED-513 D1 on enclosed inquiry slip

INSULATED THERMOSTAT
maximum differential is ½° C

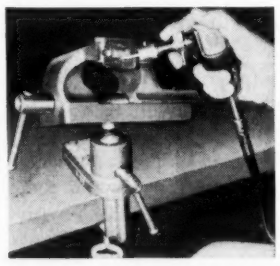


Model DR insulated thermostat can be calibrated and hermetically sealed at the factory or by the customer. It has wiping bi-metal actuated contacts, and its case is insulated by two glass-seal solder terminals. Custom mounting brackets are optional. Maximum differential is ½° C. • **Chatham Controls Corp.**, 145 River Rd., Chatham, N. J.

For more details circle NED-514 D1 on enclosed inquiry slip

VISE CLAMP
allows quick change of vise location

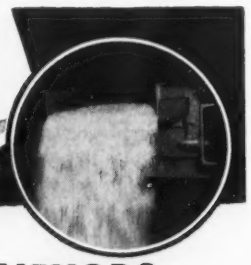
This bench clamp, which bolts to the Tilt-Swivel shop vise, makes possible rapid mounting and change of bench location by merely loosening the clamp screw.



It affords fast, easy setup for precision filing, drilling, reaming, grinding, or finishing. Vise features a ball joint that permits swiveling through 360 degrees and tilting up to 30 degrees up or down. Clamps are available for both large and small vises. • **Engis Equipment Co.**, Hyprez Div., 431 S. Dearborn St., Chicago 5, Ill.

For more details circle NED-515 D1 on enclosed inquiry slip

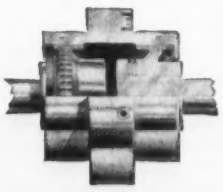
AJAX



AJAX LO-VEYORS

Ajax Lo-Veyors are welcomed everywhere as cost saving successors to trucks, wheel-barrows and other high cost methods of manual handling bulk materials. *Ask for Catalog.*

AJAX FLEXIBLE COUPLINGS

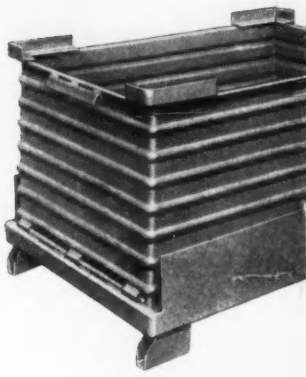


Thirty-five years of satisfactory performance on direct-connected pumps, compressors, cranes, conveyors and automated equipment have proved the economy of protecting good machinery with Ajax Flexible Couplings, Rubber-Bronze Bushed or Dihedral gear type. *Ask for Catalogs.*

AJAX FLEXIBLE COUPLING CO. INC.
Westfield, N. Y.

For more details circle NED-516 D1 on enclosed inquiry slip

LOOK TO UN



for boxes pallets skids

UNION METAL
Material Handling Equipment

For more details circle NED-517

Electrical Protection is MODERNIZED
with BUSS Fuses in the KLM Royal Dutch Airlines Bldg. New York City

A 3 million dollar modernization program was recently completed on this 13 story office building at 609 Fifth Ave.

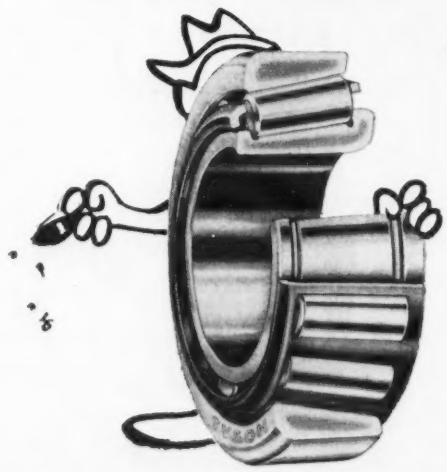
Capacity of the electrical system was greatly increased, resulting in an estimated available fault current level approaching 100,000 amperes.

In the main switchboard, Buss LIMITRON fuses are installed to provide the necessary high interrupting capacity and — to give great current limitation needed to protect circuits and equipment.

To further assure safe protection and to safeguard against needless outages, distribution and feeder circuits are equipped with FUSETRON dual-element fuses.

For more details circle NED-518

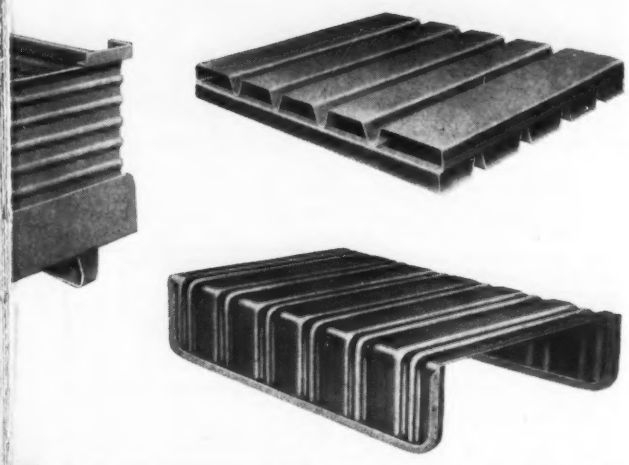
The Authorized SKF



Spherical, Cylindrical, Ball, and Tyson *Tapered Roller Be*

For more details circle NED-51

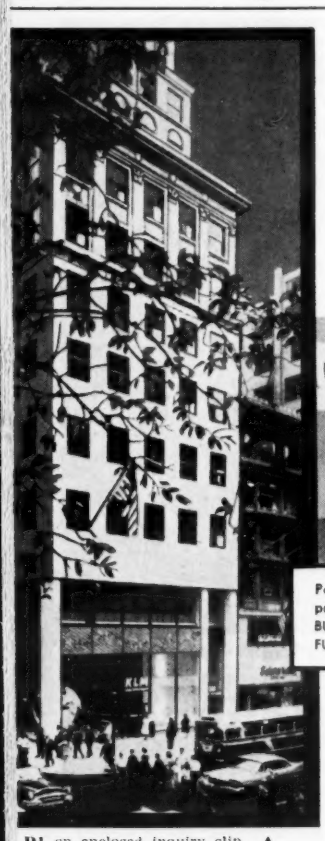
ION METAL



Detailed information covering advantages, features and complete range of designs is readily available.

THE UNION METAL MANUFACTURING COMPANY
Canton 5, Ohio • Brampton, Ontario

D1 on enclosed inquiry slip

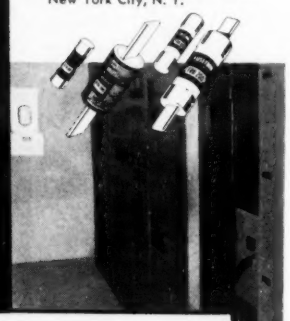


Architect: ANTONIO RAYMOND and L. L. RADO, New York City, N. Y. WALTER HART Co-ordinating Architect for KLM

Consulting Engineer: EBNER ASSOCIATES New York City, N. Y.

Electrical Contractor: DAVIDSON ELECTRIC CO. Brooklyn, N. Y.

General Contractor: TURNER CONSTRUCTION CO., New York City, N. Y.



Part of Main Switchboard protected by BUSS LIMITRON and FUSETRON dual-element FUSES

461

To help you select the proper fuse, write for the new BUSS booklet, BASIC PROTECTION FOR ELECTRICAL POWER SYSTEMS.

BUSSMANN MFG. DIVISION
McGraw-Edison Co.
University at Jefferson, St. Louis 7, Mo.

D1 on enclosed inquiry slip

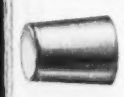
Bearing Distributor

ands behind every

bearing he delivers

He backs up his complete line of SKF bearings with on-the-spot service—and specialized experience with all types of bearing selection, installation and maintenance problems. To make sure your bearings run smoothly, just call him today.

7834



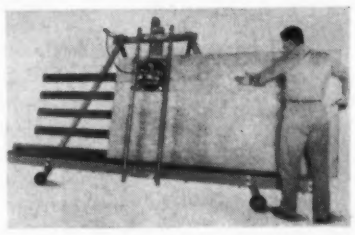
EVERY TYPE—EVERY USE
SKF®
SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.

*rings

*REG. U. S. PAT. OFF.

D1 on enclosed inquiry slip

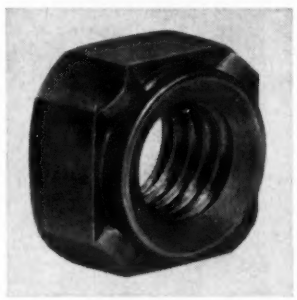
TWO-WAY PANEL SAWS
for 48 and 62-in. wide sheets



Wood, plastic, aluminum, composition, and other types of panelling can be cut by this two-way panel saw. Standard size handles 48-in. wide panels and a larger size cuts up to 62-in. widths. Channel lengths are 12 and 14 ft. Both have Black & Decker heavy duty saws that operate on 115 v ac or dc. A 220-v motor is available. Other features include a switch lock for continuous ripping, turntable for changing from cross to rip cutting and a pressure bar which eliminates marking of material and prevents chatter. • **DeWalt, Inc.**, Dept. M, 1400 Fountain Ave., Lancaster, Pa.

▲ For more details circle **NED-520 D1** on enclosed inquiry slip ▲

SHEET METAL WELD NUT
joined to work by resistance welding



Used in fabricating sheet metal products that must be assembled or disassembled by bolting, the Republic Midland weld nut is electrically welded in place by any projection welding machine of proper capacity. The nut is suited for blind applications where vibration would shake ordinary nuts loose, where thin gages are required, or where there is insufficient room for use of a wrench. A circular shoulder or pilot positions the nut and four projections on its face are fused to the sheet metal by welding. It can be automatically fed. • **Republic Steel Corp.**, 1441 Republic Bldg., Cleveland 1, Ohio.

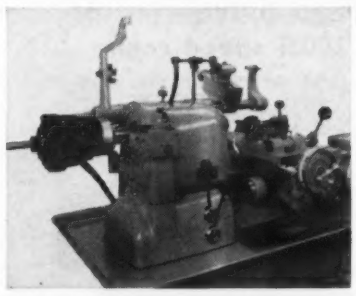
▲ For more details circle **NED-521 D1** on enclosed inquiry slip ▲

ROLLING LADDER
unit is self-supporting

A 24 or 28-ft Alco-Lite heavy duty aluminum or glass fiber extension ladder can be specified with this self-supporting rolling service ladder. It requires no secondary support. Ladder is mounted on a rigid welded steel frame equipped with 8-in. semipneumatic wheels and hand-retractable, swivel type front casters. With the ladder in a horizontal position, over-all dimensions are 30 x 70 in. A cam-operated device holds the ladder securely in the upright position. Folding outriggers extend to both sides for stability when needed. Hand rails and a lineman's plastic belt attached to the ladder top are features. • **Aluminum Ladder Co.**, 42 W. Darlington St. Ext., Florence S. C.

▲ For more details circle **NED-522 D1** on enclosed inquiry slip ▲

COLLET ACTUATORS
for use on hollow spindle machines

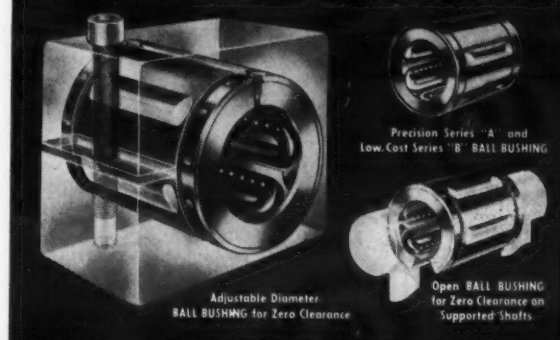


Push or pull collets, expanding mandrels, Rubber-Flex collets, and power chucks can be actuated by a line of air actuators for use on all hollow spindle machines. It is installed without modification on turret lathes, automatics, chuckers, polishers, mills, and other machines. The actuators convert automatic or turret lathes to chuckers, or convert chuckers to bar machines. Use of the spindle hole is retained for feeding coolant to work or for feeding bar stock. Loading and unloading are performed without stopping the spindle, thereby speeding up production. The actuators multiply jaw gripping power up to 80 times plant air line pressure. Gripping pressure is adjustable. Collet and chuck opening and closing are effected by an air valve. • **Wil-Numat Corp.**, 411 S. Hindry, Inglewood 1, Calif.

▲ For more details circle **NED-523 D1** on enclosed inquiry slip ▲

NOW! *Adjustable Diameter and Open*

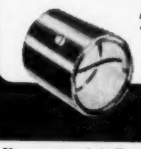
THOMSON **BALL BUSHINGS**



The BALL Bearing for *all* your **LINEAR MOTIONS**

LOW FRICTION • ZERO SHAKE OR PLAY
ELIMINATE BINDING AND CHATTER
SOLVE SLIDING LUBRICATION PROBLEMS
LONG LIFE • LASTING ALIGNMENT

The various types cover a shaft diameter range of ⅛" to 4". Small sizes available in Stainless Steel. Write for literature and name of our representative in your city.



THOMSON INDUSTRIES, Inc.
Dept. C, MANHASSET, NEW YORK

Also manufacturers of NYLINED Bearings . . . Sleeve Bearings of DuPont NYLON

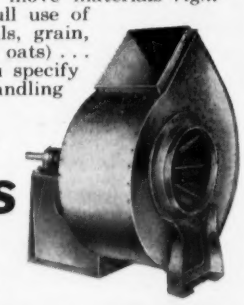
▲ For more details circle **NED-524 D1** on enclosed inquiry slip ▲

MEN WHO KNOW THEIR OATS...

Always specify Garden City Materials Handling Fans to handle any bulk material . . . even oats.

That's because they know the heart of any pneumatic conveyor system is the fan. It must be rugged. It must be non-clogging. It must be powerful.

It *should* be a Garden City Fan. Engineered to keep the heaviest loads flowing at constant, uniform speeds, Garden City Fans move materials *right through the fan* . . . make full use of fan power to handle cereals, grain, cotton, paper, metals (even oats) . . . at lowest cost. Be sure you specify Garden City Materials Handling Fans for *your* operation.



Write today for Bulletin 960.

MATERIALS HANDLING FANS *made by*

GARDEN CITY FAN & BLOWER CO.
835 North Eighth Street, Niles, Michigan.

▲ For more details circle **NED-525 D1** on enclosed inquiry slip ▲

premium power* at no extra cost

Master Power

AIR HOISTS

The lightest air hoist you can buy—with power to spare. 128 basic variations permit you to custom-fit it to your job. Rotary, vane-type air motor has wider blades for greater power, longer life. Master Power's air hoist motor cannot burn out on overload; permits complete operator control from creep to top speed (48'/min. with 1000 lb. load); adjusts to specific descent speeds without sacrificing lift speed. Compact, versatile, economical, safe. Write for data.

LOOK UNDER TOOLS—PNEUMATIC

Leading distributors everywhere sell

MP *Master Power*
Master Power Corporation • Solon, Ohio
A *Black & Decker* Subsidiary

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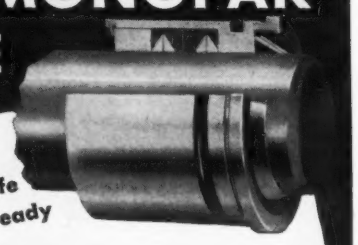
REDUCE MACHINING EXPENSE with the MONOPAK® CARTRIDGE



Special features:
- Longer service life
- No machining, ready to use
- Tamper-proof, needs no adjusting
- Easily installed or replaced
- Includes "Seal Guard®" rod wiper
- Cuts machine down-time
- Low friction down-time
- Anti-backlash rings

A complete packing unit for hydraulic or pneumatic rods or cylinders, this cartridge combines all necessary packings, bearings, and rod wipers into one shock and burst proof unit.

Write for complete information

HYDRAULIC ACCESSORIES CO.
24301 Hoover Road
Warren, Mich.

For more details circle NED-527 D1 on enclosed inquiry slip

91

AIR-MITE

PRODUCTION AIR PRESSES

- Any length column
- Any length stroke
- ¼, ½, ¾, 1 Ton capacities
- Special adaptations available

ONE MANUFACTURING SOURCE FOR PNEUMATIC AUTOMATION COMPONENTS
- Cylinders
- Presses
- Valves
- Filters
- Regulators
- Lubricators
- Fittings
- Hose

Air-Mite Production Air Presses are ruggedly built for high production applications. Solid steel column for greater strength and rigidity; compact, powerful cylinders have long, maintenance-free construction features that insure uninterrupted service. Available with a variety of controls for fast, safe operation. Press shown is equipped with two Air-Mite 3-way valves — 1 normally "closed", 1 normally "open." Cylinder will not return for second stroke unless both valves are actuated.

Write for complete Air-Mite catalog which illustrates and describes the Air-Mite line.

AIR-MITE DEVICES, INC.
4403 W. Kinzie St., Chicago 24, Ill.

For more details circle NED-528 D1 on enclosed inquiry slip

How to select

WORM GEAR Drives

FREE TO DESIGN ENGINEERS

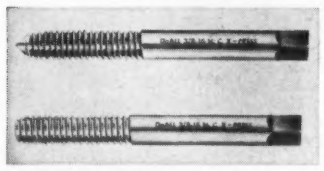
NEW Bulletin 218

Complete up-to-date information on Cone-Drive double-enveloping worm gear drives. Provides all specification data plus "how to select and order".

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

For more details circle NED-529 D1 on enclosed inquiry slip

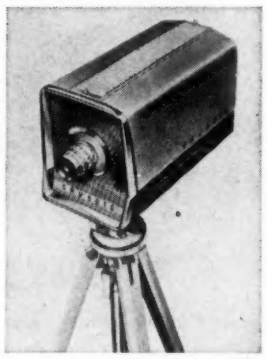
INTERNAL THREAD TAPS offered in plug and bottoming types



Internal threads forged instead of cut in copper, brass, zinc, lead, aluminum, die castings, and other ductile materials are strong and accurate. Forged threads are made by X-Press taps which have no flutes or cutting edges to break down or become dull. They are used the same as ordinary taps, but at double spindle speeds, thus increasing production. Standard sizes range from No. 0-80 to ½ in. NC and NF. Plug series (top) has a four-thread taper point for easy starting and bottoming series (bottom) has no male center and a two-thread taper point. Both are usable on all standard equipment. • **DoALL Co.**, 254 N. Laurel Ave., Des Plaines, Ill.

For more details circle NED-530 D1 on enclosed inquiry slip

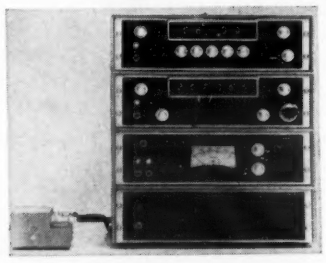
TELEVISION CAMERA self-contained and easy to use



Tripod-mounted FA-40 Tele-Eye television camera transmits live images through a 32½-ft long cable connected into a conventional receiver, reproducing them instantly on the screen. Camera can be tilted up or down or swung in a panoramic arc. Although West German made, it uses a standard TV lens (F25 mm, aperture 1:1.5) and is compatible with American telecasting standards. Accessory lens for varying focal distances and light intensities is available, as are longer transmission cables. Camera uses its own component power source. Operation is on 220/110 v, 60 cycles. Price is $695. • **Majestic International Sales, Inc.**, 743 N. LaSalle St., Chicago 10, Ill.

For more details circle NED-531 D1 on enclosed inquiry slip

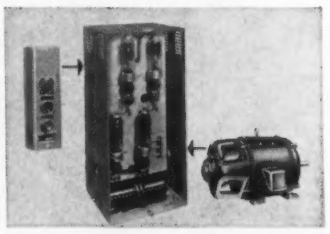
RADIOACTIVITY METERS four chassis meet most needs



Four chassis in a line of radioactivity measuring instruments are a preamplifier for amplification of pulses from Geiger, scintillation, or proportional detectors; high voltage supply for a stable polarizing potential for all types of radiation detectors; a scaler for accurate counting of pulses; and a timer for recording the length of time counting is taking place, or for stopping the counting at a preset time. Each device can be purchased separately, or all four can be supplied as an integrated unit as shown. Time is presented in increments as small as 1/1000 second, and scaler will indicate as many as 999,999 counts with a resolution of 1 microsecond. • **Nuclear-Chicago Corp.**, 359 E. Howard Ave., Des Plaines, Ill.

For more details circle NED-532 D1 on enclosed inquiry slip

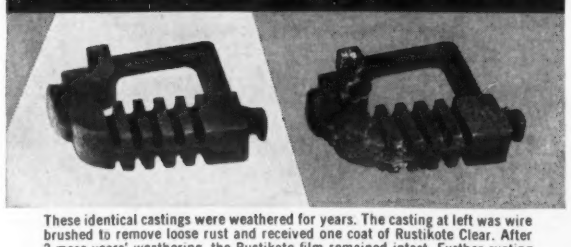
ELECTRONIC SPEED DRIVE with 2:1 to 100:1 speed range



Speeds from 2:1 to 100:1 are easily selected with this Class 8833 Type BG electronic speed drive which operates from single-phase alternating current. System is comprised of the controller, pushbutton station, and drive motor and is available in ratings from ¾ through 4 hp. A pair of grid-controlled thyratrons and diode tubes provide full-wave rectified voltage to the drive motor armature. For precise speed regulation regardless of load, an IR drop compensating network is employed. Features include protection against shorts, under-voltage, and overload; timed acceleration to preset speed; regulated speed reference supply; and tube circuits that fail safe on filament burn-out. • **Square D Co.**, Dept. SA, 4041 N. Richards St., Milwaukee 12, Wis.

For more details circle NED-533 D1 on enclosed inquiry slip

NEW deep-penetrating RUSTIKOTE Saves Rusted Metal As It Decorates



These identical castings were weathered for years. The casting at left was wire brushed to remove loose rust and received one coat of Rustikote Clear. After 2 more years' weathering, the Rustikote film remained intact. Further rusting was successfully prevented. The uncoated casting at the right shows the continuing deterioration.

Stop waste and save maintenance dollars in your plant right now! Use new deep-penetrating Tropical RUSTIKOTE to protect and decorate all rusted metal surfaces.

Sprayed or brushed on, RUSTIKOTE penetrates rust, anchors to base metal. It resists corrosive action while providing a hard, wear-resistant surface that lasts for years, indoors or out. Finish coats in a wide range of colors make your equipment and buildings look better, last longer.

Write for free RUSTIKOTE bulletin today.

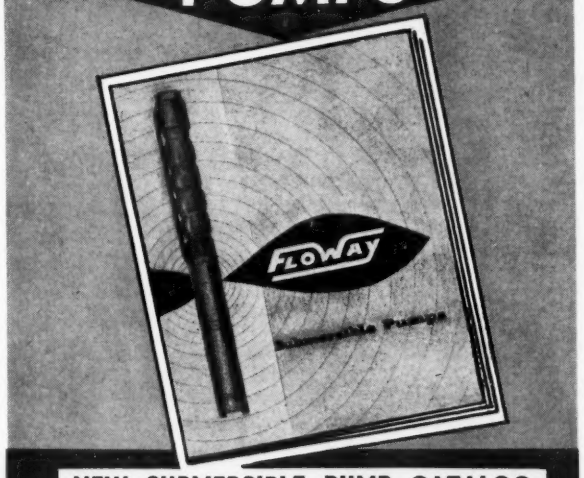
HOW DEEP-PENETRATING RUSTIKOTE PROTECTS METAL

This magnified cross-section illustrates RUSTIKOTE'S protective action. As it penetrates down to base metal, the rust-inhibiting additive resists further deterioration of the surface. The surface is then deep-sealed with a hard, Bakelite-reinforced finish.

TROPICAL PAINT COMPANY
1124-1242 W. 70th, Cleveland 2, Ohio
HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883 • SUBSIDIARY OF PARKER RUST PROOF COMPANY

For more details circle NED-534 D1 on enclosed inquiry slip

FAST FACTS ON INDUSTRIAL PUMPS



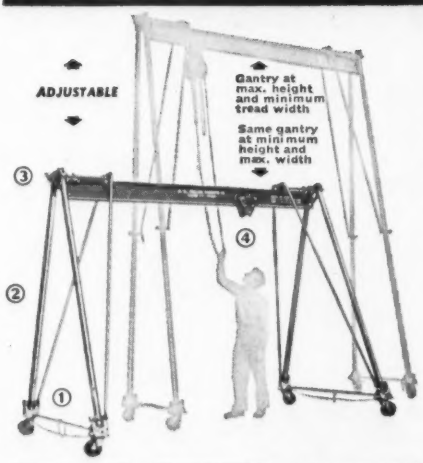
NEW SUBMERSIBLE PUMP CATALOG

FLOWAY Pumps

MANUFACTURED BY
FIESE & FIRSTENBERGER MFG., Inc.
2494 Railroad Ave Fresno, Calif.

For more details circle NED-535 D1 on enclosed inquiry slip

MAGIC-POLE UNIVERSAL GANTRY

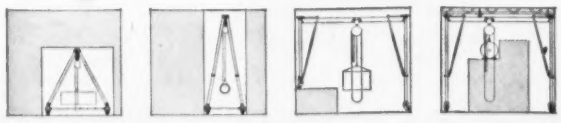


1. ADJUSTABLE CASTER SPREAD
2. TELESCOPING LEGS
3. SELF-LEVELING I-BEAM UP TO 30 FT. LONG
4. TROLLEY TRAVELS FULL LENGTH

STEEL OR ALUM. ALLOY I-BEAMS

HEIGHTS TO 17 FEET

CAPACITIES TO 4 TONS



Sets low for moving under piping, fire doors & into elevators, etc.

Caster spread adjusts to under 4 ft. for rolling in tight spaces.

Legs adjust up to 6 feet to rest on platforms, truck beds or in pits.

Height adjusts to take maximum advantage of limited head room.

Write for FREE literature

B. E. Wallace Products Corp. EXTON 19 PA., U.S.A.

For more details circle NED-536 D1 on enclosed inquiry slip

new! ETC

HEAVY DUTY
solderless terminals

CUT FAILURES DUE TO VIBRATION BREAKAGE

Formed from heavier stock (full .050") to resist heavy vibration that fractures standard terminals. Economical extra "insurance" for your assemblies. Over 200 styles, types and sizes—rings, spades, etc., insulated or not. Wire range 16-14. Crimp with your standard 12-10 tooling. Full ¼" barrel length means fast, positive extra-strong connections. Quick delivery from stock. Sharp-pencil prices. Write today for samples, bulletins, prices.

ETC INCORPORATED
990 E. 67 St., Cleveland 3, Ohio

For more details circle NED-537 D1 on enclosed inquiry slip

The Story in Back of a Symbol

Begin with a coil for perceiving electrical changes. Add two arrows and convert sensing ability into action. Now, enclose in an ohm ... and you have the signature of the REGOHM® family. These controls, of pure simplicity and reliability, are being used in over a million individual applications throughout the world.

Consider one fast-rising scion of the family tree—the REGOHM Transducer. If you would like to make a mosquito move a mountain, the transducer will bring you close to the summit. A few grams of force causing less than ⅛ inch movement effects direct control at the ¼ kw level.

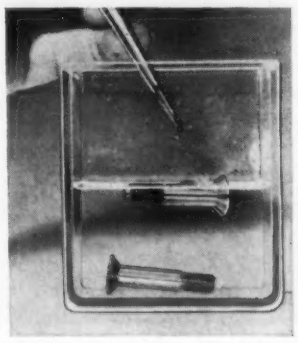
Performance like this can significantly reduce costs in many control systems: Position, Tension, Weight, Loop, Speed, Pressure and others.

ERC Engineers are ready to assist you with your application. To learn more about the REGOHM Transducer, contact:

ELECTRIC REGULATOR CORPORATION
NORWALK, CONNECTICUT
"leaders in automatic control and regulation"

For more details circle NED-538 D1 on enclosed inquiry slip

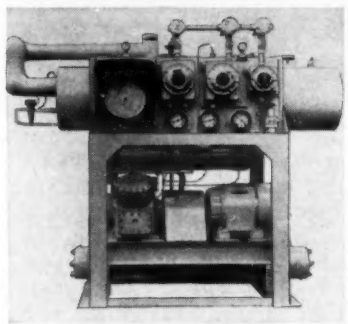
BERYLLIUM BOLTS
one-fourth the weight of steel



High strength, light weight beryllium bolts have a minimum shear strength of 60,000 psi and an endurance or fatigue limit of 45,000 psi. Weight is 23 per cent that of steel. Strength-to-weight mechanical properties are reportedly higher than similar configurations in both stainless steel and titanium bolts. A chemical surface finish increases the fatigue life 10 to 12 fold. An aluminum locknut is used with the bolt for optimum weight savings. Standard shear bolt configurations from No. 6 through ⅜-in. diameter are offered, plus special headed and threaded parts to order. Beryllium bolt is shown floating in a silver nitrate-water solution, while a steel bolt sinks. • **Standard Pressed Steel Co.**, Box 581, Jenkintown, Pa.

For more details circle NED-539 D1 on enclosed inquiry slip

LIQUID CHILLERS
are custom built and explosionproof



Furnished in ratings from 3 to 150 tons of refrigeration, these custom built liquid chillers are self-contained and furnished as a ready-to-install package with only connection to system piping and electric power needed. Air and water cooled models have prewired control centers and full safety equipment. Control of fluid temperatures is precise, adapting these units for processing in food, chemical, plastic, refining, nuclear, paint, and other industries. • **George Koch Sons, Inc.**, Thermal Products Div., 2112 Pennsylvania Expressway, Evansville 4, Ind.

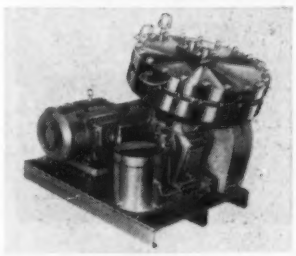
For more details circle NED-540 D1 on enclosed inquiry slip

WARDROBE RACK
holds 15 to 20 coats

Weighing only 8 lb, the No. 711 collapsible wardrobe rack stores in a 42 x 22 x 5-in. space. It stands 42 in. high and holds 15 to 20 coats. Rack is made of heavy aluminum tube and will support over 150 lb. Its top hat shelf is 15 in. deep. Collapsing time is 20 sec. Price is $19.50 in quantities of six or more. • **Glaro Machine Products Co.**, Wartburg Avenue, Copiague, L. I., N. Y.

For more details circle NED-541 D1 on enclosed inquiry slip

GAS COMPRESSORS
diaphragm type is leakproof



Pulsafeeder diaphragm type cam compressors will recycle gases at pressures up to 5000 psi and compress gases from the atmosphere with better than a 10:1 ratio. They also meter with reproducible accuracy. The single-acting units have a piston reciprocating in a cylinder which works against a compression liquid which in turn displaces a diaphragm. All working parts are separated from the gas handled by this diaphragm to prevent contamination from gas to lubricants, prevent leakage to atmosphere, and provide for handling corrosive, dangerous, or other difficult-to-handle gases. A hydraulic compensator pump assures maximum scavenging of gas volume with each compressor stroke. Line consists of three models with 1.25, 3.86, and 10.3 cfm capacities. • **Lapp Insulator Co.**, Process Equipment Div., 120 Hall St., LeRoy, N. Y.

For more details circle NED-542 D1 on enclosed inquiry slip

ADVANTAGES of 60 Case
- COST REDUCTION
- HARD BEARING SURFACE
- NICK- & DENT-PROOF
- ACCURATE DIAMETERS
- GROUND FINISH
- STRAIGHT PARTS
- DELIVERY FROM STOCK
- ADDED STRENGTH
- UNIFORM HIGH QUALITY

60 Case material has a Rockwell 60C surface hardness which is essential to reduce wear.

Big savings are offered over conventional methods which are plagued with erratic warpage, straightening and resultant grinding problems. Finished *60 Case* parts frequently cost less than the scrap losses that result from conventional methods.

Stocked in ¼" to 4" diameters. Available with or without special machining. *Write for literature and name of your local representative.*

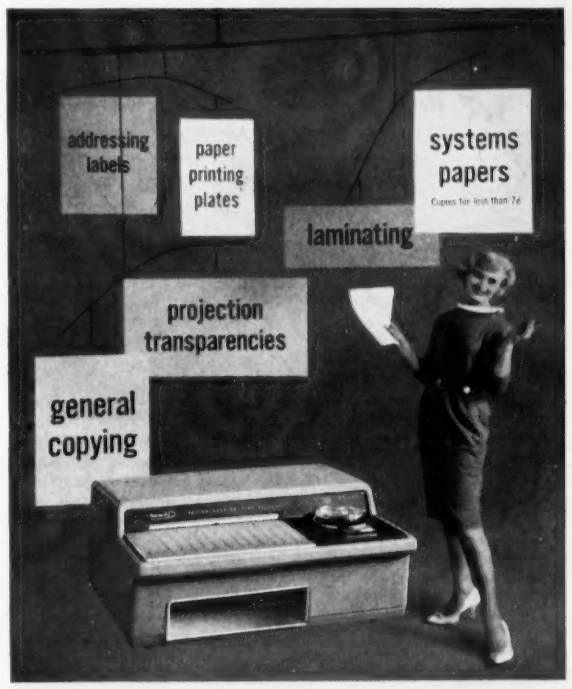
TYPICAL 60 Case PARTS
GUIDE RODS, SHAFTING, ROLLS, TRAVERSE RAILS, PISTON RODS, ARBORS, LEADER PINS, TIE RODS, KING PINS, AXLES, CONTROL RODS, GUIDE POSTS, MANDRELS, BEARING ROLLERS, SPINDLES

For emergency needs call collect MAnhasset 7-1800

THOMSON INDUSTRIES, Inc.
Dept. C2, Manhasset, New York

PARTS HARDENED to 60 C...increase life...reduce cost!

For more details circle NED-543 D1 on enclosed inquiry slip



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THE TERM "THERMO-FAX" IS A REGISTERED TRADEMARK OF 3M COMPANY

Minnesota Mining and Manufacturing Company
Dept. DBQ-41, St. Paul 6, Minnesota
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Company _____
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For more details circle NED-544 D1 on enclosed inquiry slip

NEW AP
KASE KING
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TUBULAR STEEL
HAND TRUCKS

PRICED FROM $11.95

LIGHT WEIGHT
HIGH UTILITY
JOB ENGINEERED
INDUSTRY STANDARD

Move it With
AMERICAN

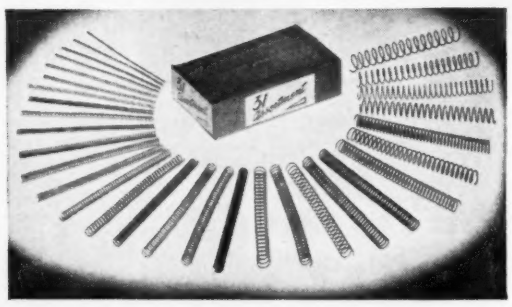
See your AP Distributor ...or write for a free hand truck folder—learn how these new trucks can work for you—*at a profit*

2688

THE AMERICAN PULLEY COMPANY
4200 WISSAHICKON AVENUE • PHILADELPHIA 29, PA.
A division of VAN NORMAN INDUSTRIES INC.

For more details circle NED-545 D1 on enclosed inquiry slip

Stock SPRING assortments



Our #31 (compression) Spring Assortment folders are now available and yours for the asking. Our #28 (extension) Spring Assortment folders are also available. Ideal for tool rooms and maintenance work. To overcome the faults of ordinary assortments, which seem to contain "every spring except the one needed", design efforts were not confined to the springs alone; rather, loadings and dimensions were analyzed to assure the user of greater probability in having the correct spring on hand, whatever the application.
We also manufacture to special order.
Send samples or prints for quotation.

Find Your Nearest Paragon Agent In The Yellow Pages

PARAGON SPRING COMPANY
4619 W. Fulton St. • Chicago 44, Ill.

For more details circle NED-546 D1 on enclosed inquiry slip

REED 1-3-4 WHEEL PIPE CUTTERS

Wide Hub
Razor Blade Wheels

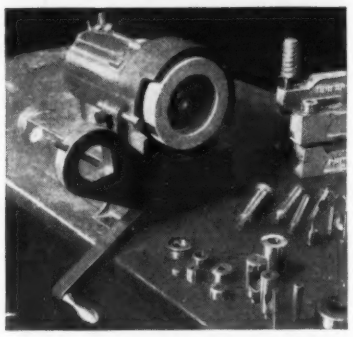
The Reed Pipe Cutters in this series are the easiest-to-use and the cleanest cutting tools in their size range. In the roller model, the single wheel is in the sliding block where it is always in full sight with the cut-off mark. The 4-wheel model is excellent for close-quarter work since it operates with an easy ratchet-like action through a quarter revolution. Reed Razor Blade Wheels cut easily, track perfectly, and leave minimum burr. Available in three size ranges: ⅛" to 1¼", ⅛" to 2" and 1" to 3".

At better jobbers, or write for circular

REED MANUFACTURING COMPANY
ERIE, PENNSYLVANIA

For more details circle NED-547 D1 on enclosed inquiry slip

PUNCH & DIE SHARPENER
accepts most punch and die makes



Most makes and types of standard and special punches and dies are accommodated by the portable, bench-type Unipunch universal punch and die sharpener. Punches and dies are held in a machined V-holder at 90 degrees to grinding wheel and swung across the wheel's face. Knurled feed handle allows precision feeding of piece to wheel. Features include special cup-type grinding wheel, rigid one-piece cast frame, wheel guard, and permanently lubricated enclosed fan-cooled 115/230-v motor rated ½ hp, 3450 rpm. • **Punch Products Corp.,** 370 Babcock St., Buffalo 6, N. Y.

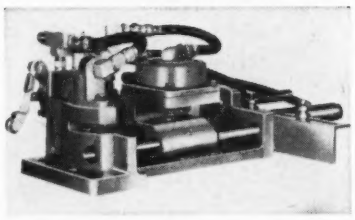
For more details circle NED-548 D1 on enclosed inquiry slip

WEB TENSIONING DEVICE
uses static as hold-back force

A constant tension can be applied to a web of paper, plastic, rubber, or other nonconducting material at any desired point with this Electro-Grip for hold-back or drive rolls. Device consists of a Lucite bar containing multiple rows of pin type electrodes excited with high voltage direct current to create a static bar. Bars can be placed over the web at one, two, or more points wherever there is a conductive roller under the web. The invisible static force is applied through the air gap, making the web adhere firmly to the roller. This traction can be controlled by varying the distance between the web and static bar. In some applications, the static bar can replace nip and/or vacuum rolls to isolate the processing from the unwind and/or windup. • **Babco Inc.,** 608 Broadway, Brooklyn 6, N. Y.

For more details circle NED-549 D1 on enclosed inquiry slip

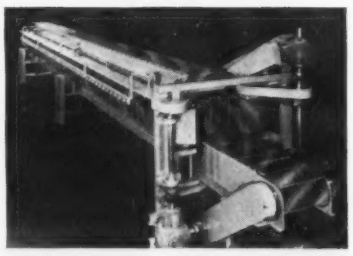
AUTOMATIC PRESS FEEDER
for light coiled material



Light coiled stock is fed to punch presses operating at speeds to 250 strokes per minute by this Ses-Matic Junior air feed. It is accurate within 0.002 in., and handles materials up to 4 in. wide and 0.06 in. thick. Stroke lengths are adjustable to 4 in. An air check cushions the last ½-in. of stock travel. Operation of the feed is synchronized with the press by means of a roller cam air valve. It can be mounted to feed press from any direction. • **Special Engineering Service, Inc.,** Ses-Matic Press Equipment Div., 7631 Wyoming, Dearborn, Mich.

For more details circle NED-550 D1 on enclosed inquiry slip

FOUR-SIDED CONVEYOR
has synchronized single drive unit



Four-sided "moving tunnel" conveyor is a combination of four Armorbelt metal belt conveyors, used as a takeoff unit for an extruder or for continuous foaming of such plastics as rigid polyurethane. All four belts run on ball bearing rollers and are driven as a synchronized single unit. Height of the rectangular cross section is adjustable, as is spring mounting of the top conveyor which permits control of working pressure and compensates for variation in height. Variable speed drives are available with or without remote control and speed indication. The stainless steel belt is self-tracking, nonstaining, and has tight joints. Overload protection is built in. Variations in size, metals, and design features are available. • **M-H Standard Corp.,** 515 Communipaw Ave., Jersey City 4, N. J.

For more details circle NED-551 D1 on enclosed inquiry slip

COMPACT and PORTABLE!
500 DeLuxe Drum Rotator
by
MORSE

Faster, Lower Cost
More Thorough

- MIXING
- BLENDING
- TUMBLING
- CLEANSING

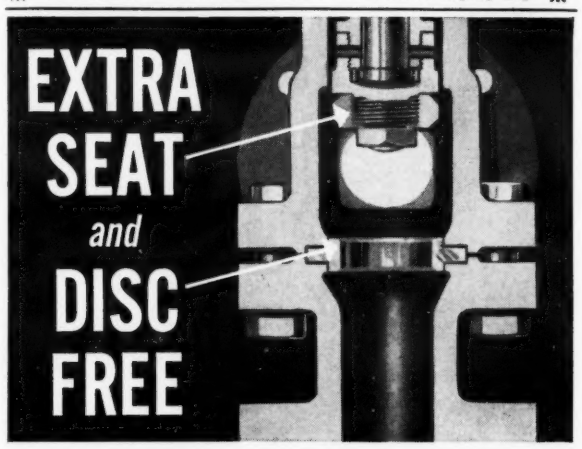
Handles 30 and 55 gal. drums; and with special attachments, 1 and 5 gal. containers; weight capacities up to 500 lbs. Powerful, smooth, motorized unit. Available with 10, 20 or 40 rpm. Weighs only 137 lbs. Neoprene drive wheels are oil and chemical resistant. Also available with explosion-proof motor. Patented features and design make this the finest portable rotator available.

Clip this ad to your letterhead for free MORSE Catalog.

DRUM & BARREL HANDLING EQUIPMENT MORSE E. SYRACUSE, N.Y.

MORSE MANUFACTURING CO., INC.
756 West Manlius Street, East Syracuse, N. Y.

For more details circle NED-552 D1 on enclosed inquiry slip



in every Homestead® Boiler Blow-Off Valve! Simply reverse ground-and-mated Monel seat and disc and you have a valve as good as new. These Hovalco Angle Valves, built to outlast your boiler, resist corrosion and erosion. They throttle, control rate of blow-off, give long service. Easy inspection, quick repair. Used in tandem with any of three types of Homestead Quarter-Turn Plug Valves, Hovalco Angle Valves meet all requirements of State and Province Boiler Laws and A. S. M. E. Code. Write for catalog.

hv HOMESTEAD VALVE MANUFACTURING COMPANY
"Serving Since 1892"
P. O. Box 84, Coraopolis, Pa.

For more details circle NED-553 D1 on enclosed inquiry slip

CAMPBELL SENTRY SLINGS
...the Sling Chain that "talks"

The WARNING RING tells you immediately when the sling has been overloaded ... it elongates visibly ... before the chain itself is damaged! Your eye *can see* the difference! Greater safety, greater economy!

Write today for Brochure #1022.

CAMPBELL CHAIN *Company*
FACTORIES: York, Pa.; West Burlington, Iowa; Union City, Calif.
WAREHOUSES: E. Cambridge, Mass.; Atlanta, Ga.; Dallas, Texas; Chicago, Ill.; Portland, Ore.; Seattle, Wash.; Los Angeles, Calif.

For more details circle NED-554 D1 on enclosed inquiry slip

FITS ANY STANDARD AIR LINE
NO ELECTRICAL CONNECTIONS
NO MOVING PARTS – NO WEAR
ALUMINUM BODY – NO SPARKING
ECONOMICAL AND POWERFUL
EFFICIENT WET OR DRY PICK UP
LIGHT, PORTABLE, EASY TO USE

*INTER-CHANGEABLE ACCESSORIES

NOZZLE AND BAG ARE QUICKLY DETACHED AND CAN BE REPLACED WITH A WIDE VARIETY OF "TAPER FIT" ACCESSORIES WHICH ADAPT THE "LITTLE WINDY" AIRVAC TO DOZENS OF IMPORTANT TIME AND MONEY SAVING APPLICATIONS. SEE BACK PAGE FOR ILLUSTRATIONS AND PRICES.

FREE TRIAL OFFER

M-M-A WANTS YOU TO KNOW THE MANY MERITS OF THIS UNUSUAL DEVICE AND INVITES YOU TO SEND YOUR FORMAL PURCHASE ORDER SPECIFYING "FIVE DAY FREE TRIAL." EITHER M-M-A OR ITS NEAREST DISTRIBUTOR WILL DELIVER A "LITTLE WINDY" AIRVAC FOR YOUR OWN TESTS AND EVALUATION. NO COST . . . NO OBLIGATION!

M-M-A, INC. LANCASTER, PA.

For more details circle **NED-555 D1** on enclosed inquiry slip

KODAK ANNOUNCES

Kodak

3 important new Kodagraph Films

Superb, high-contrast emulsions on new ESTAR BASE assure you of crisp, sharp, long-lasting, dimensionally stable reproductions of your drawings, maps, other documents. These three new ESTAR BASE films are also highly translucent, have an excellent matte surface on both sides . . . won't turn yellow or become brittle, and are moisture resistant. Available in cut sheets, and in rolls up to 52" wide.

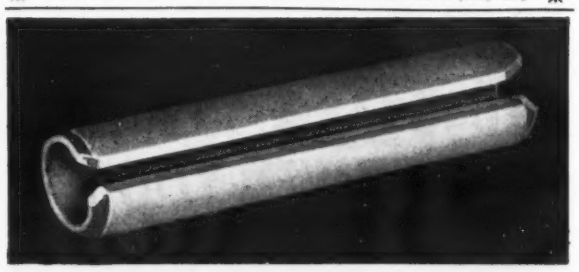
1. **Kodagraph Autopositive Film, ESTAR BASE.** Ideal for general reproduction work—gives you same-size positive intermediates *directly* without negative step.
2. **Kodagraph Contact Film, ESTAR BASE.** Bound to be a darkroom favorite in making same-size reproductions of old or weak line originals from film or low-cost paper negatives.
3. **Kodagraph Projection Film, ESTAR BASE.** Gives you sharp, clean results when enlarging microfilm negatives, or making reductions from film negatives.

Call local Kodagraph dealer for free folder, or write to Eastman Kodak Company, Graphic Reproduction Division, Rochester 4, N. Y.

NEW! Kodagraph

REPRODUCTION FILMS

For more details circle **NED-556 D1** on enclosed inquiry slip



Versatile Rollpin®

simplifies design, speeds production

ROLLPIN can be used in place of taper pins, solid straight pins, set screws, hinge pins, dowels, clevis pins . . . and in some cases as a rivet.

ROLLPIN is a slotted, cylindrical spring pin deliberately oversized in relation to standard production drilled holes . . . compressive forces lock it in place. Reaming or secondary safety operations such as peening are eliminated.

ROLLPIN is easy to install, easy to drive out with a drift pin or punch, yet will "stay put" indefinitely.

ROLLPIN is available for immediate off-the-shelf delivery—comes in sizes from .062" diameter to .500" in carbon steel, corrosion resistant steel or beryllium copper.

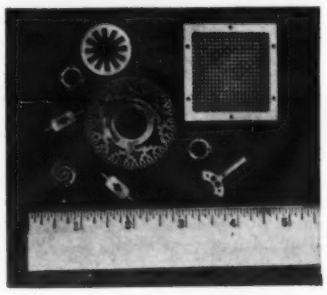
For a free bulletin detailing Rollpin applications and installation methods, write to Dept. R54-437.

ROLLPIN®

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, New Jersey

For more details circle **NED-557 D1** on enclosed inquiry slip

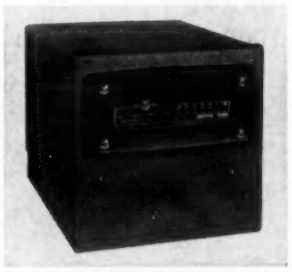
ETCHED PRECISION PARTS
produced in wide variety of metals



Tolerances as close as 0.0002 in. can be held in these custommade subminiature precision parts. Made by a photo etching process, they require no deburring. Extremely complex parts in various sizes and shapes may be made of many very thin materials, including Hy-Mu 80 and 800, stainless steel, beryllium copper, phosphor bronze, silicon, nickel silver, silver, and the more common metals. Microscopic sizes can be turned out for use in many industries. • **Komak, Inc.,** 2632 W. Cumberland St., Philadelphia 32, Pa.

For more details circle **NED-558 D1** on enclosed inquiry slip

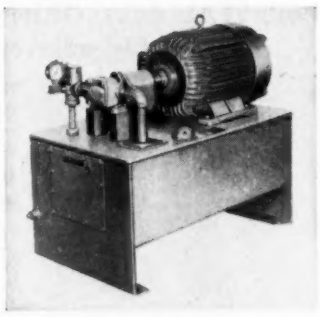
PNEUMATIC FLOW METER
multiplies flow rate by time



Direct readout of total flow in volumetric units is provided by cyclometer-type pneumatic flow totalizer. The panel-mounted instrument multiplies flow rate by time to give total flow. It requires only input air signal and electrical power connections. The linear or square root pneumatic signal ranges between 3 and 15 psi. Unit measures 7¼ x 7¼ x 9 in., has a dust-tight case, and can be serviced without removing it from the panel. • **B-I-F Industries, Inc.,** 345 Harris Ave., Providence 1, R. I.

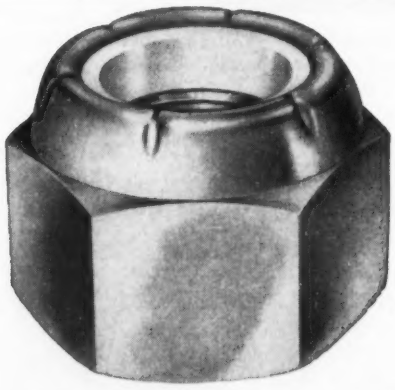
For more details circle **NED-559 D1** on enclosed inquiry slip

HYDRAULIC POWER UNITS
deliver up to 35 gpm at 2000 psi



Thirteen models with reservoir capacities from 15 to 60 gal are available in the VSP Line of hydraulic power units which deliver up to 35 gpm at pressures to 2000 psi. Eleven of the machines can be converted from 1000-psi rating to 2000 psi by installing a larger motor. All are equipped with a relief valve and an 1800-rpm motor, plus a single hydraulic power pump. • **Hannifin Co.,** Dept. 128, 501 S. Wolf Rd., Des Plaines, Ill.

For more details circle **NED-560 D1** on enclosed inquiry slip



What size is a quality fastener?

Here are two ELASTIC STOP® nuts. Each has the familiar red locking collar.* Each is self-locking, vibration proof and reusable. Both stop nuts will maintain an accurate adjustment anywhere on a bolt . . . each prevents liquid seepage along bolt threads and protects against thread corrosion. Finally, each has an unmatched record for quality, both in manufacture and performance.

But . . . one measures 1/10" across the flats; the other, 4". Between these two there are more than 530 different hex nuts in the ESNA line. Look to ESNA for a *standard* self-locking fastener to fit your *special* needs. Write Dept. S2-437.

*The red locking collar is a Registered Trade Mark of ESNA

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, New Jersey

For more details circle **NED-561 D1** on enclosed inquiry slip

IF YOU'RE

Handling Coil

CHECK THESE C-F LIFTER ADVANTAGES

- 1 Lifter handles wide range of coil sizes
- Requires minimum of only 10" to 12" between piles — saves storage room
- 1 man operation — eliminates hookers
- Positive grip on coil — no damage to material

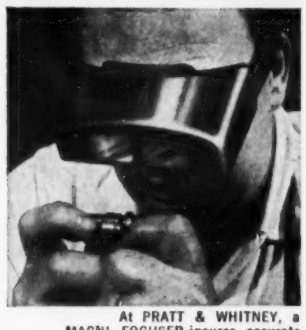
• C-F Coil Lifters are saving time and labor in many plants and warehouses because they can pick up, carry and set down a coil of steel faster and safer than any other method. Infinite jaw openings permit handling a very wide range of coil widths . . . carrying legs open fast, stay open until operator closes them on coil. Narrow legs require minimum space between piles—a space saving advantage. Made in motorized models for crane cab or pendant operation as well as manual types with chain wheel, in capacities from 3 tons up. Powered Rotating Heads available. Opening ranges to suit your requirements.

Write for illustrated Bulletin

CULLEN-FRIESTEDT CO.
1304 South Kilbourn Avenue • Chicago 23, Illinois

For more details circle **NED-562 D1** on enclosed inquiry slip

Production UP
Inspection Errors DOWN
—when inspectors "SEE BETTER"®
with MAGNI-FOCUSER 3-D BINOCULAR MAGNIFIERS



At PRATT & WHITNEY, a MAGNI-FOCUSER insures accurate inspection of a precision part.

It takes more than just the human eye to accurately detect defects in a mass-produced product. That's why hundreds of plants manufacturing products ranging from jet planes to microscopic electronic parts insist that their inspectors wear **MAGNI-FOCUSERS.**

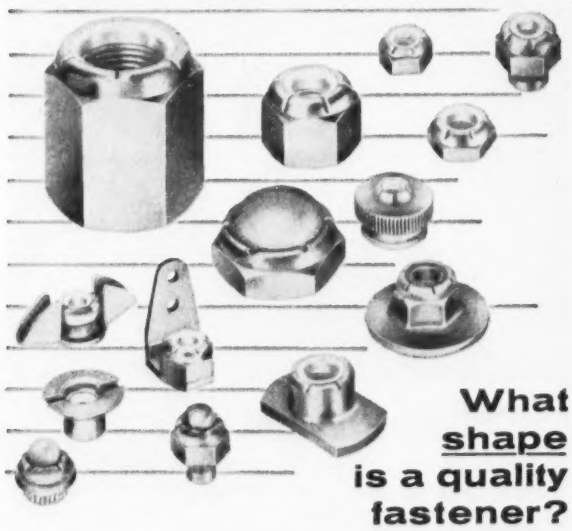
MAGNI-FOCUSER, the 3-D binocular magnifier with matched precision ground optical glass lenses, helps eliminate costly errors by providing needle-sharp, distortion-free magnification in the third dimension.

MAGNI-FOCUSER reduces eyestrain, leaves both hands free to work. May be worn with or without regular eyeglasses. Normal vision resumed by raising head slightly. Weighs only 3 ounces.

Get greater accuracy in your operation—send for **MAGNI-FOCUSER** on a 10-day trial without obligation! Immediate delivery. Three models—1¾ magnification at 14", 2¼ at 10", 2¾ at 8". Only $10.50. Illustrated literature on request.

EDROY PRODUCTS CO.
Dept. B, 480 Lexington Ave.
New York 17, N. Y.

For more details circle **NED-563 D1** on enclosed inquiry slip



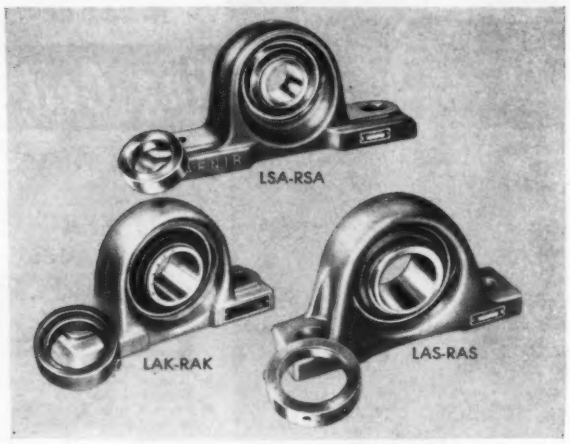
What shape is a quality fastener?

Here is a handful of ELASTIC STOP® nuts. Each has ESNA's familiar red locking collar*. . . is vibration-proof and made of the finest materials. Each is exactly controlled as to finished dimensions, class of thread fit and finish . . . with an unmatched record for uniformly high quality. **Most of them are standard parts . . .** some originated as a result of a specific request for ESNA's assistance. So . . . for help on *your* next fastening problem, send us the details of your application. Write Dept. S1-437.

*The red locking collar is a Registered Trade Mark of ESNA.

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, New Jersey

For more details circle **NED-564 D1** on enclosed inquiry slip



FAFNIR
BALL BEARING PILLOW BLOCKS

A wide size range makes it possible for you to equip completely with Fafnir Ball Bearing Pillow Blocks when you need bearing replacements.

For example, the three shown here are all standard duty but built to different housing dimensions to meet various requirements. All feature the Fafnir wide inner ring ball bearing with self-locking collar for easy installation.

You have a choice of contact-type Plya-Seals (R-Series), or slinger-type Mechani-Seals (L-Series), for higher speeds. See your authorized Fafnir Distributor. Or write: The Fafnir Bearing Company, New Britain, Connecticut.

FAFNIR BALL BEARINGS

▲ For more details circle NED-565 D1 on enclosed inquiry slip ▲

temperature and pressure extremes require ACHESON MOLY & GRAPHITE-fortified compounds for unparalleled performance

★★★★★★★★★★★★★★★★★★★★★★★★

in: METALWORKING LUBRICANTS

ASSEMBLY AND RUN-IN

MOLD COATINGS

ELECTRICALLY CONDUCTIVE FILMS

PARTING AGENTS

SOLID FILM LUBRICATION

Specific application recommendations and product data available on request.

ACHESON COLLOIDS COMPANY Port Huron, Michigan

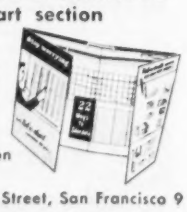
▲ For more details circle NED-566 D1 on enclosed inquiry slip ▲

"Slickest visual control..."

states *Factory* magazine. Entries made directly with marking pencil on a rolling "Mylar" sleeve which *moves with time*, bringing deadlines constantly closer. Entries easily erased.

Send for **FREE GUIDE to Control Methods** with full-scale, sample chart section

Shows how Rol-a-chart controls 22 different items: orders, production, data processing, maintenance, dispatching, sales, etc. Also expert consultation service with no obligation.

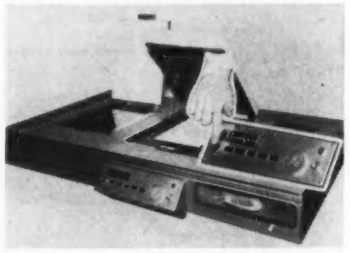


Rol-a-chart Division

Conley, Baltzer & Steward, 494 Jefferson Street, San Francisco 9

▲ For more details circle NED-567 D1 on enclosed inquiry slip ▲

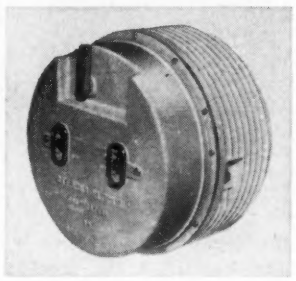
AUTOMATIC COPYING MACHINE
transfers images electrostatically



Using the electrostatic principle of transferring images, this Diafax office copying machine produces dry, permanent, positive black and white copies of written, drawn, or printed originals in any color. It will handle up to legal size originals, including bound volumes, and opaques, translucencies, and transparencies. Cycle is electronically controlled, eliminating exposure and other make-ready adjustments. Originals never pass through the machine, minimizing the chance of damage, and development of copies is achieved without liquid chemicals. Results are excellent in reproduction of halftones and solids. • **Photorapid Corp.**, 142 Oregon St., El Segundo, Calif.

▲ For more details circle NED-568 D1 on enclosed inquiry slip ▲

ELECTROMAGNETIC BRAKE
in 500, 750, and 1000 lb-ft ratings



Completely enclosed Series 46,000 electromagnetic brake is offered in torque ratings of 500, 750, and 1000 lb-ft. The alternating-current operated units have high thermal capacities and simple control requirements. Entire operating mechanism is attached to single plate to facilitate disassembly. Need for readjustment to compensate for lining wear can be visually determined from outside the enclosure. Manual release-automatic reset is provided. Brake accommodates standard motor shaft lengths or through shafts. • **Stearns Electric Corp.**, 120 N. Broadway, Milwaukee 2, Wis.

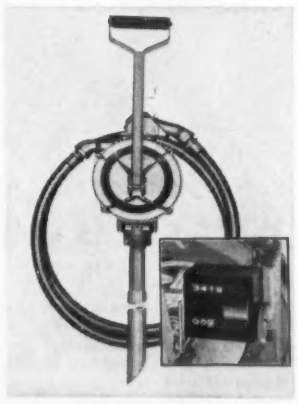
▲ For more details circle NED-569 D1 on enclosed inquiry slip ▲

PEDESTAL BELT GRINDER
work table adjusts eight ways

Work table of the PBG-5132 heavy-duty abrasive belt grinder raises, lowers, and tilts to the right, left, up, or down for angular or compound angular applications. Table can also be brought close to belt and platen, or can be retracted. Grinder is equipped with a 3-hp motor which drives belt at speeds of 1200 to 3800 sfpm. Abrasive belt capacity is 5 x 132 in. Constant belt tension head is quickly released for changing belt. Roller, flat, or contoured platens are available. • **Bush Mfg. Co.**, 900 Rochester Rd., Clawson, Mich.

▲ For more details circle NED-570 D1 on enclosed inquiry slip ▲

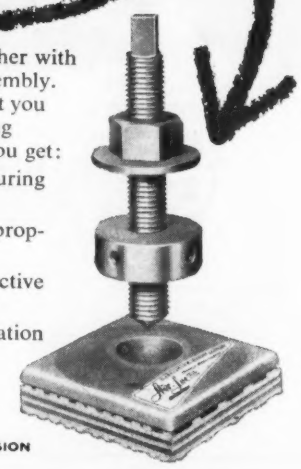
HAND PUMPS
push-pull type has gallon counter



Organic and inorganic acids and salt solutions, alcohols, aldehydes, esters, fuel and lubricating oils, kerosine, and vegetable oils are typical of liquids handled by Series 10 double-acting hand pumps. The push-pull type pumps have double diaphragms which isolate liquid from body of pump. A nylon shaft bearing is the only friction point. Basic 110 pump has 2-in. male thread for barrels and 1-in. female thread for suction pipe. A, B, and C models are equipped with any of 15 accessories and attachments which include a recording counter which totalizes to 9999 gal and a resettable counter which reads to 99.9 gal. • **Wayne Pump Co.**, Griffin Street, Ft. Wayne 4, Ind.

▲ For more details circle NED-571 D1 on enclosed inquiry slip ▲

JACMOUNT
ECONOMICAL MACHINE MOUNTS
...dampen 85% of vibration and shock



Jacmounts are available either with or without a jackscrew assembly. You can purchase only what you need for your own mounting requirements. Either way you get:

- A mount only 1" high assuring a minimum of motion
- The superior dampening properties of an Air-Loc pad
- A low cost, yet highly effective machine mount

Write today for full information

Air-Loc® DIVISION

Clark, Cutler, McDermott Company
5 WEST CENTRAL ST. • FRANKLIN, MASS.

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Get the COUNT!

Durant Sales Engineers will supply a PRODUCTIMETER for every and any counting need in your plant.

Send for Bulletin # 200

DURANT MANUFACTURING CO.
1922 N. Buffum St., Milwaukee 1, Wis.
22 Thurbers Ave, Providence 5, R. I.
Representatives in Principal Cities

DURANT COUNTING INSTRUMENTS

▲ For more details circle NED-573 D1 on enclosed inquiry slip ▲

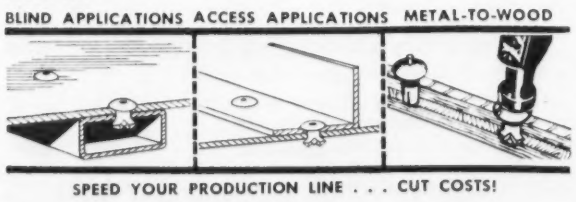
LOOK HOW EASY... AND FAST RIVETING CAN BE WHEN YOU USE SOUTHCO DRIVE RIVETS!

Rivet and Mfg. Patented.

a hammer is the only tool
...drive like nails
...automatic "pull-up" action

Fastest for:

BLIND APPLICATIONS ACCESS APPLICATIONS METAL-TO-WOOD



SPEED YOUR PRODUCTION LINE . . . CUT COSTS!

For complete data, write Southco Division, South Chester Corporation, 243 Industrial Highway, Lester, Pa.

SOUTHCO FASTENERS LION

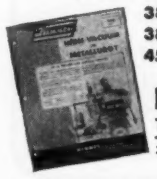
▲ For more details circle NED-574 D1 on enclosed inquiry slip ▲

High Accuracy Gages for High Vacuum

by Kinney®

Now you can KNOW the pressures in your Vacuum System with greater assurance . . . KINNEY High Vacuum Gages not only give you accurate readings, they give them to you *faster* and *easier*. The KINNEY Compensated Thermocouple Gage covers the range from 3000 to 1 micron. The GICT Ionization-Thermocouple Gage—from 3000 microns to 10^{-7} mm Hg.

WRITE FOR THESE BULLETINS TODAY



3800.1 Compensated Thermocouple Gage
3811.1 Ionization-Thermocouple Gage
4510 Metallurgical Furnace Bulletin

KINNEY VACUUM DIVISION
THE NEW YORK AIR BRAKE COMPANY
3612D WASHINGTON STREET · BOSTON 30 · MASS.

For more details circle NED-575 D1 on enclosed inquiry slip

METALSET® A4

Epoxy Resin in Tubes

ADVANTAGES OF METALSET

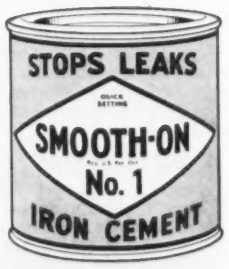
Bonds and cements iron, steel, aluminum, ceramics, concrete. Tough for shock resistance. Packed in self-metering tubes. Also available in 2½, 5, 20 and 100 pound cans. • Water- and oil-proof • Chemically stable.

TYPICAL METALSET REPAIRS

- Stops leaks in tanks, metal roofs, gutters, radiators, pipes
- Caulks conduits, flues, casements, skylights, all sheet metal
- Smooths and fills metal and wooden surfaces
- Machinable; can be drilled, tapped, sanded
- Makes all loose parts tight
- Anchors bolts and screws in wood, concrete, plaster

SMOOTH-ON IRON CEMENT
"SMOOTH-ON NO. 1"

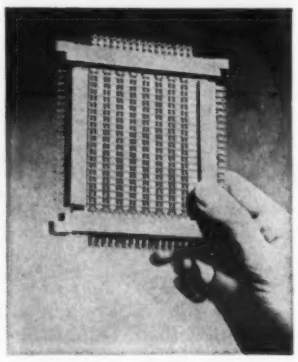
Smooth-On is a dry powder, 70% iron. Mix it with water, it metalizes as it hardens. Resists high temperatures. Expands as it sets to fill a break or hole in any metal. The standard since 1895.
• Smooth-On is a metal filler. Metalset is a coating and bonding compound. Taken together, they meet any emergency.



METALSET
Made by SMOOTH-ON MANUFACTURING CO.
572 Communipaw Avenue, Jersey City 4, N. J.

For more details circle NED-576 D1 on enclosed inquiry slip

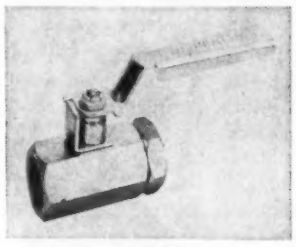
MAGNETIC MEMORY PLANE
thin film type speeds system usage



First in a line of magnetic thin film memory planes, intended to make possible the building of faster memory systems, this Type BIP-1000 can store 20 words of 8 bits each or 160 bits of information. Cycle time is 0.2 microsecond. Plane consists of a film of nickel-iron alloy on a glass substrate, sandwiched between two printed circuit boards containing read, information, and sense conductors which pass over each bit. Complete package is 4 x 3¼ x 0.070 in. It has standard printed circuit receptacles for integration into electronic systems. • **Burroughs Corp.**, Electronic Tube Div., Box 1226, Plainfield, N. J.

For more details circle NED-577 D1 on enclosed inquiry slip

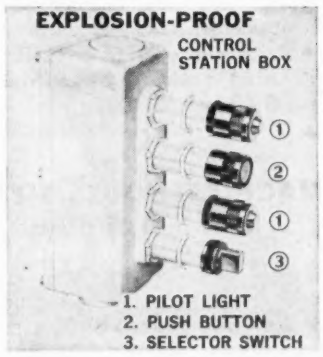
BI-DIRECTIONAL VALVES
¼ to 2-in. sizes rated at 600 psi



Two Teflon seats that seal the flow in both directions are features of compact Flo-Ball bar stock valves. They have self-lapping and self-cleaning action and operate with a quarter-turn. Sizes from ¼ to 2 in. are rated 600 psi water-oil-gas, with 1000-psi test. Both NPT and AND threaded ends are available in carbon steel, Type 303 and 316 stainless steel, and brass. On-off indication is easily visible. Prices range upward from $10.20. • **Hydromatics, Inc.**, 5 Lawrence St., Bloomfield, N. J.

For more details circle NED-578 D1 on enclosed inquiry slip

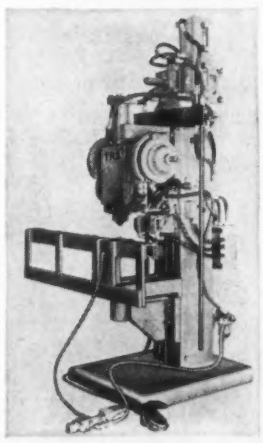
EXPLOSIONPROOF CONTROLS
panel type switches, lights, boxes



Line of compact, cast aluminum, explosion-proof control station boxes, switches, and pilot lights is designed for flush panel mounting. Boxes in single or up to four station sizes can be fitted with any combination of control elements. Pushbuttons for standard duty can have normally - open, normally - closed, or normally-open and normally-closed single-pole contact arrangements rated 3 amp, 115-v ac. A choice of six lens colors is offered in the sealed pilot lights with 6-w 120-v or 10-w 230-v lamps. Boxes are suited for up to 600-v service. Suitable legends are available for control elements. • **Adalet Mfg. Co.**, 14300 Lorain Ave., Cleveland 11, Ohio.

For more details circle NED-579 D1 on enclosed inquiry slip

AIR-HYDRAULIC RIVETER
setting force is 10,000 psi



Model 211 air-hydraulic riveter automatically feeds and sets either of two length rivets with up to 5/16-in. diameters. Operating on 80-psi air pressure, its hydraulic booster and cylinder delivers a setting force of about 10,000 psi, applied only during the last downward ½ in. of spindle travel. First 3½ in. of down stroke and the entire retract stroke use only low pressure. Riveter is equipped with two feeders, air and spring pin anvil, and a work support bracket. Rivet length required is automatically selected when a section of the workpiece contacts a Micro Switch. Throat depth is 12 in. Two foot valves are provided, one for the anvil pin and the other for tripping the machine. Complete cycle time is less than 1 sec. • **Tubular Rivet & Stud Co.**, Quincy 70, Mass.

For more details circle NED-580 D1 on enclosed inquiry slip

SEVEN · SEVEN · SEVEN · SEVEN

ANNOUNCING the Addition of **7** New Non-Powered Materials Handling Products to the Brooks & Perkins Family . . . The announcement date has been set for the Materials Handling Show, in Philadelphia, May 9 thru 11. We will look forward to your visiting us at booth number 264

*

Manufacturers of Magnesium and Aluminum Non-Powered Materials Handling Equipment

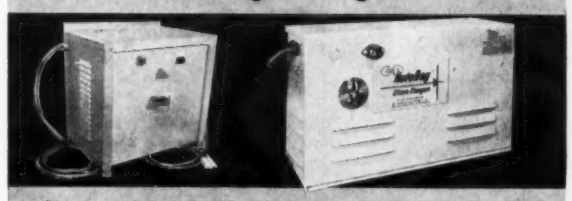
BROOKS & PERKINS, INC.
1928 W. Fort St. • Detroit 16, Michigan
Tel. TA. 5-5900
Offices in Washington and New York

61-S-1

For more details circle NED-581 D1 on enclosed inquiry slip

USE ELECTRIC INDUSTRIAL TRUCKS?

Get simplified charging; lower maintenance costs with a C & D *AutoReg*® charger



Chargers for 6, 9, 12, 15, 16, and 18-cell batteries
Choice of overnight or 8-hour chargers

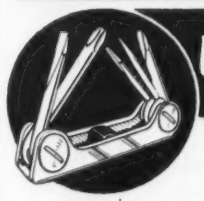
ALL MODELS
- Provide long, trouble-free life.
- Eliminate need for skilled personnel.
- Are fully automatic.
- Charge same number of cells with smaller A.H. capacity without adjustment.
- Eliminate aging adjustments.

C&D AutoReg Silicon Chargers

Write for complete details—
12-, to 18-cell batteries, Bulletin AR-109
6- and 9-cell batteries, Bulletin AR-110

A PRODUCT OF C & D BATTERIES DIV., THE ELECTRIC AUTOLITE CO. OF CONSHOHOCKEN, PA.

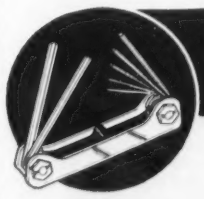
For more details circle NED-582 D1 on enclosed inquiry slip



New! A JACKNIFE 5-IN-1 SCREWDRIVER SET

NEW combination tool with 5 screwdriver blades in one complete unit.
All blades made from high quality steel, hardened and tempered.
Each blade can be used straight out or at right angles for extra leverage.

Each unit contains: 3/16" Flat Blade, #2 Phillips Type, ¼" Flat Blade, ⅛" Flat Blade, 3/16" Hole Punch (Awl)



Also...A POCKET KNIFE 7-IN-1 HEX KEY SET

At last a hex key set with 7 blades that will fit all types of hex socket screws.
Use it . . . fold it up and put in your pocket . . . just that simple.
Use straight out or at right angles for extra leverage. Made from nickel alloy steel, hardened and tempered for long life.

Send for TRIAL ORDER Now!

5-in-1 JACKNIFE SCREWDRIVER SET	1.49
3 MODELS OF HEX KEY SETS	
7-in-1 General Purpose (Fits #5 to 7/16" set screws)	1.49
6-in-1 Heavy Duty (Fits ¼" to ⅝" set screws)	2.95
5-in-1 Heavy Duty (Fits ⅜" to ¾" set screws)	2.95

Eklind TRADE MARK **EKLIND TOOL & MFG. CO.**
2727-C N. Western Ave., Chicago 47, Ill.

For more details circle NED-583 D1 on enclosed inquiry slip

MACWHYTE SLINGS

Safer, easier, and faster handling is assured by Macwhyte's complete line of balanced braided slings, single-part wire rope slings, and "Safe-Lock" swaged fitting slings. Ask for Sling Bulletin 5308-R. Macwhyte Wire Rope Company, Kenosha, Wisconsin, U.S.A.

185

MACWHYTE Wire Rope COMPANY

For more details circle NED-584 D1 on enclosed inquiry slip

Which of these self-spraying products can you use?

CHECK THE LIST—THEN PHONE YOUR DISTRIBUTOR!

Single brand—single source

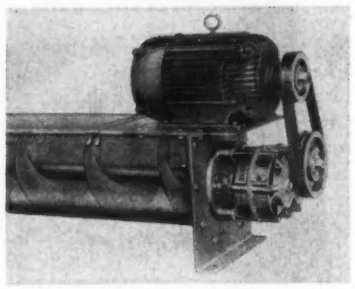
ONE CALL—THAT'S ALL!

The first **complete** line of industrial aerosols—your key to "push-button maintenance." Stocked and sold only by industrial distributors to give you quick service! Phone your distributor today for free handbook of 47 different maintenance and production aids in self-spraying containers—the better, faster, safer, cleaner, easier way to do a hundred jobs! Made by the oldest and leading custom-loader of aerosol specialties. If your distributor cannot supply you, write **Industrial Supply Division, Sprayon Products, Inc., 2063 East 65th Street, Cleveland 3, Ohio.**

Sprayon AEROSOLS FOR INDUSTRY

For more details circle NED-585 D1 on enclosed inquiry slip

SCREW CONVEYOR DRIVE
made in 8:1 and 18:1 ratios

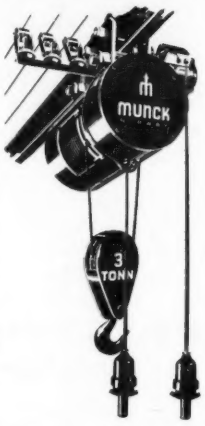


Double reduction speed reducer with a packing gland and driving shaft which mounts on a trough end comprise the Series 100 screw conveyor drive for short conveyor flights. It is offered in ratios of 8:1 for up to 6 hp at 225 rpm, and 18:1 for up to 3.8 hp at 100 rpm. Reducer is triple sealed against entry of the materials being conveyed. Heat treated helical steel gears and pinions, rated to AGMA standards, and heavy duty tapered roller bearings which take screw thrust in either direction are incorporated. Slotted holes in the reducer flange permit rotation for adjustment of V-belt drive center distances. ● **Dodge Mfg. Co.**, 600 S. Union St., Mishawaka, Ind.

For more details circle NED-586 D1 on enclosed inquiry slip

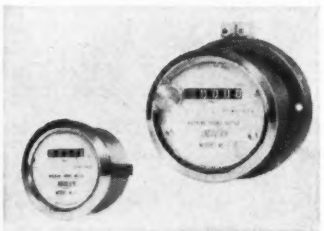
ELECTRIC HOISTS
capacities from ½ to 10 tons

Over 100 models are available in the Munck line of Norwegian made electric hoists which have fixed mounts and three types of trolleys: Plain model moved by pushing on the load; geared chain hand drive; and motor driven. Low headroom mounts are also offered. Hoists have capacities from ½ to 10 tons and incorporate a motor built inside the drum, conical rotor brake, and high and low position limit switch. Types 221, 223, and 225 have respective capacity ranges from 0.5 to 2, 1.5 to 6, and 2.5 to 10 tons when equipped with one, two, three, or four ropes. Lift heights range from 66 to 79 ft with one rope to 16.4 and 19.6 with four ropes. Operation is controlled by a suspended, enclosed pushbutton unit. Units operate on 110, 220, 380, or 500 v, 25, 50, or 60 cycles. ● **Fisker-Munck Hoist Co.**, 775 Main St., Buffalo 3, N. Y.



For more details circle NED-587 D1 on enclosed inquiry slip

MACHINE HOURS METER
built-in and flange types



Hermetically sealed Model M-1 machine hours meter registers machine operating time in tenths of hours up to 9999.9 hr. It has a tamperproof reset on Types 62 and 63 which moves all five digits ahead to zero at one time. Types 60, 61, and 72 are available without this feature. Meter is made in built-in and flange types for time study, cost analysis, and maintenance control uses. Operation on 110 or 220 v can be specified. ● **Ameresco, Inc.**, 7 Center Ave., Little Falls, N. J.

For more details circle NED-588 D1 on enclosed inquiry slip

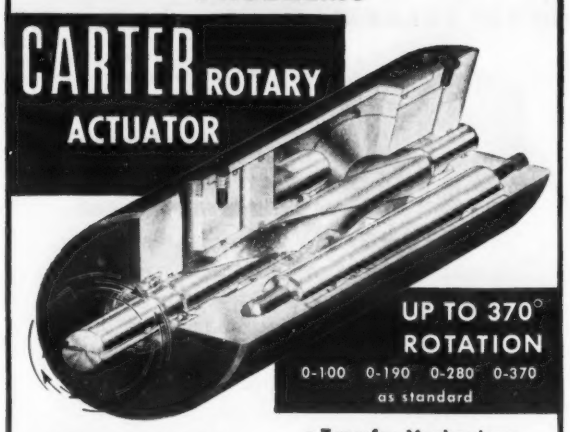
BELT LACER
makes 12-in. wide flexible joints

Powered by a 6-in. air cylinder, the Speed Lacer embeds hooks firmly to make a belt joint up to 12 in. wide. Hooks are embedded flush with the surface, with all strain evenly distributed across the joint. Designed for high volume lacing of belting and other materials, it uses an air pressure of at least 80 psi. Foot operation leaves both hands free for belt placement. Both the 8 and 12-in. models can make wider joints by repeating the procedure. ● **Clipper Belt Lacer Co.**, 974 Front Ave., Grand Rapids 2, Mich.

For more details circle NED-589 D1 on enclosed inquiry slip

SOLVE ROTARY MOTION PROBLEMS

CARTER ROTARY ACTUATOR



UP TO 370° ROTATION
0-100 0-190 0-280 0-370 as standard

- SAFE, LEAKPROOF PERFORMANCE
- BUILT IN CUSHIONS
- OIL, AIR, WATER OR GAS
- Transfer Mechanisms
- Indexing
- Positioning
- Valve Operation
- Cam Actions

SEND FOR NEW BULLETIN RA-500 Complete Details and specifications. All essential design data. Send today!

CARTER CONTROLS, INCORPORATED
2876 Bernice Road, Lansing, Ill.
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For more details circle NED-590 D1 on enclosed inquiry slip

NO OTHER TOOL MOVES METAL FASTER, CHEAPER

Arcair process for metal removal

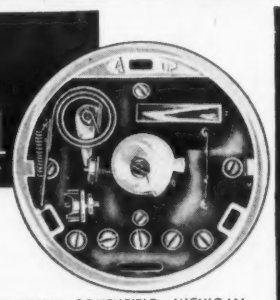
You won't believe it until you see it! Arcair Torch cuts, gouges, grooves, bevels or flushes off more metal . . . any metal . . . in less time for less money. Gives you cleaner, better jobs, yet is inexpensive to install and operate, easy to use. Arcair works with any standard arc welding machine on ordinary shop air. Your men learn to use it in 15 minutes.

Ask for a demonstration soon or write for complete information.

Arcair®
449 S. Mt. Pleasant Street
Lancaster, Ohio

For more details circle NED-591 D1 on enclosed inquiry slip

Chace THERMOSTATIC BIMETAL
ACTUATES ANOTHER PRECISION PRODUCT



MAXITROL
Selectrastat
A PRODUCT OF MAXITROL COMPANY, SOUTHFIELD, MICHIGAN

Maxitrol's "Selectra" system puts an end to cycling of forced air gas furnaces through continuous modulation of the flame. Inside the Selectrastat, a tiny thermistor senses the slightest variation (as little as 1/10 degree) in room temperature. It signals a printed circuit amplifier which immediately modulates the flame.

In addition to modulation, the Maxitrol Selectrastat performs a second important control function. The thermistor controls only the modulator valve. In mild or warm weather automatic shut-off action is achieved thermostatically. A Chace Thermostatic Bimetal element performs this function, acting as the upper limit switch.

The Selectra system will give added convenience, accuracy and dependability. Chace is proud to have its only product—Chace Thermostatic Bimetal—included in such a system. Many manufacturers specify Chace Thermostatic Bimetal because it, too, is famous for dependability . . . a dependability born of more than a third of a century of specializing in one product: Precision Thermostatic Bimetal produced to specifications.

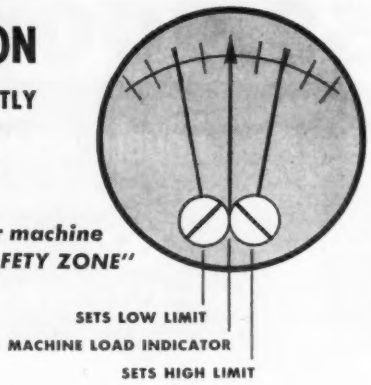
Chace Thermostatic Bimetal is available in coils, strips and completely fabricated elements of your design.

SEND NOW FOR OUR NEW "INFORMATION BOOKLET"!
W. M. CHACE CO. Thermostatic Bimetal
1604 BEARD AVE., DETROIT 9, MICH.

For more details circle NED-592 D1 on enclosed inquiry slip

MONITRON

PREVENTS COSTLY MACHINE MALFUNCTION



Operates your machine in its "SAFETY ZONE"

Sperry MONITRON® continually measures the wattage load of the machine's drive motor and instantly initiates a control action when pre-set load limits are exceeded.

- Detects overloads on metalworking machines
- Improves product quality on batch mixing
- Regulates material flow on conveyers

A necessary accessory to any automated machine.

30-DAY FREE TRIAL Price $271

SPERRY PRODUCTS COMPANY
DIVISION OF HOWE SOUND COMPANY
DANBURY, CONNECTICUT

Representatives in principal cities

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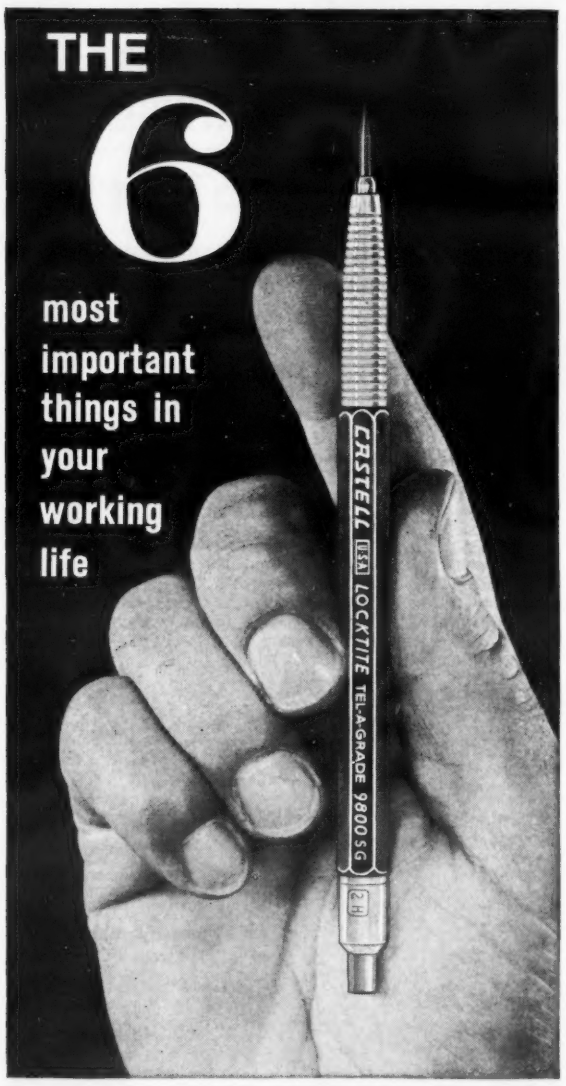


The 6 most important things in your working life are your five skilled fingers and your **A.W.Faber** #9800 SG **Locktite** Tel-A-Grade Lead Holder ■ **Locktite** becomes a part of your creative process ■ The no-slip functional grip gives you smooth traction and practically banishes finger fatigue ■ Gun-rifled clutch holds the lead like the jaws of a bull dog ■ Unique indicator reveals the degree in use at a glance ■ Carries ironclad 2-year guarantee ■ **A.W.Faber** will replace the entire holder at no charge if any part wears out in normal usage ■ Yes, you can buy cheaper lead holders, but can you afford to let pennies stand between you and your perfect working tools? Buy quality—buy **Locktite,** call your dealer today ■ **Castell Drawing Leads #9030** *are of the identical quality and grading as world-famous Castell wood pencil ■ Usable in all standard holders, but a perfect mate for Locktite ■ Draws perfectly on all surfaces, including Cronar and Mylar base films ■ Available in all degrees from 7B to 10H, and in a kaleidoscope of colors* ■

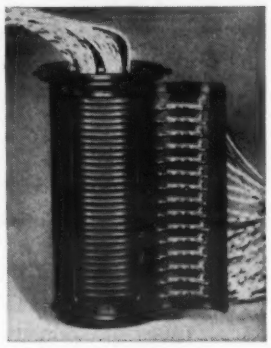
A.W.FABER-CASTELL
Pencil Co., Inc., Newark 3, N. J.

Our Bicentennial year—1761-1961
200 years of uninterrupted manufacturing experience.

CASTELL DRAWING LEAD 9030

▲ For more details circle NED-594 D1 on enclosed inquiry slip ▲

SLIP RING ASSEMBLY
accommodates 15 to 30 rings



Single size packaged slip ring assembly for instrumentation circuits accommodates from 15 to 30 rings. Unit has current capacity of 2 amp at 250 v ac, weighs less than 3 lb, and has 1200 rpm speed. Maximum shaft diameter is 1¼ in. It features low noise level and built-in aircraft reliability. Cover, shown open on photo, is dirt and splashproof when closed. ● **Superior Carbon Products, Inc.,** 9115 George Ave., Cleveland 5, Ohio.

▲ For more details circle NED-595 D1 on enclosed inquiry slip ▲

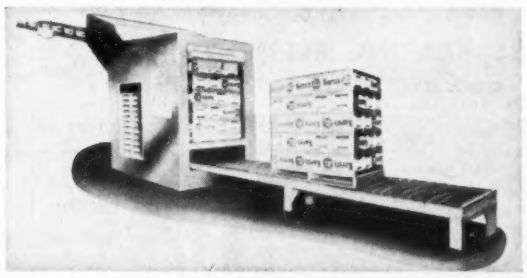
PRESSURE GAGES
offered in ranges to 1000 psi

Accurate within 1 per cent, Service Gauge pressure gages are available with two types of bourdon tubes and movements. Type 11 has a silver brazed copper alloy bourdon tube and bronze bushed movement for pressure media not corrosive to brass. Type 11S has stainless steel and Monel components for corrosion resistance. The 2½-in. gages have black Bonderized cases with blow-out plugs and brass screwed rings with beveled glass for easy access to the Recalibrator. Ranges are 15, 30, 60, 100, 160, 200, 300, 600, and 1000 psi and 30 in. vacuum. All have ¼ in. NPT male bottom connection. ● **Marsh Instrument Co.,** 3501 Howard St., Skokie, Ill.

▲ For more details circle NED-596 D1 on enclosed inquiry slip ▲

AUTOMATIC PALLETIZER
speeds match processing equipment

Packaged products received by this palletizer are automatically arranged in a predetermined pattern with a specified number of tiers. They are loaded in in-



terlocking or columnar patterns on wood, paper, or disposable pallets. The electromechanical machine has speeds to match all processing equipment ahead of it in the processing line. ● **Challenge-Cook Bros. Inc.,** Industrial Machinery Div., Box 487, La Mirada, Calif.

▲ For more details circle NED-597 D1 on enclosed inquiry slip ▲

NUMERICAL CONTROL UNIT
permits compatible programming

Either binary-coded-decimal or straight binary punched tape formats are utilized by the DynaPath-20 series contouring control system. The straight binary option permits compatible programming with previous Bendix systems and computer prepared tapes. A word address, binary-coded decimal format is also offered. The BCD format is used extensively in point-to-point control systems and is adopted as a standard by the Electronic Industries Association. The BCD format makes it possible to make, modify, reproduce, and verify tapes on a Flexowriter. ● **Bendix Corp.,** Industrial Controls Section, 21820 Wyoming, Detroit 37, Mich.

▲ For more details circle NED-598 D1 on enclosed inquiry slip ▲

LYON® STEEL EQUIPMENT

FREE! 100 Page Catalog

● Yours for the asking . . . this latest Lyon #100 catalog. 100 pages illustrating and describing in detail the world's most diversified line of steel equipment. Whatever your steel equipment requirements, this Lyon catalog will help you fill them better. Send for your copy.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

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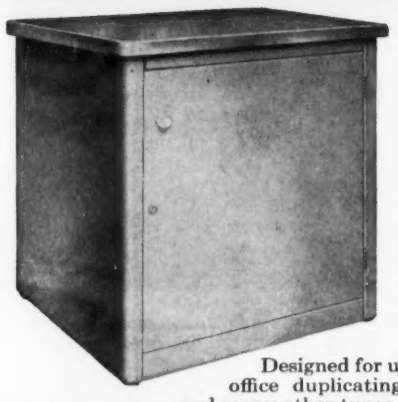
LYON® OFFICE MACHINE CABINETS



27" WIDE
21" DEEP
29" HIGH

Designed for use with most office duplicating equipment and many other types of machines. Cabinet has one adjustable shelf and built-in lock for storing supplies safely. Finished in durable baked-on gray enamel. Top has special acid-resisting finish. Equipped with glide type feet. Casters also available.

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LYON® BAR, PIPE AND ROD UNITS

Double-Face Models for Center Floor Use. Single-Face for Against Wall Locations

Ideal storage for bars, pipe, rods, posts — all long parts. Arms adjustable every 1½" with spacing as close as 7½". Uprights positioned to permit either manual or crane loading. Built of heavy-duty steel. Finish, durable gray baked-on enamel.

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for a better finish and lower grinding cost... JEWEL BRAND abrasive belts

Today's modern machines practically think for themselves, but they can't choose the right abrasive belt. That's why experienced men specify Jewel Brand. They know that Jewel Brand abrasive belts give them the right bond, the right backing, the right grain. For a trial run in your plant, call your industrial distributor or write Abrasive Products, Inc., South Braintree 85, Massachusetts.

JEWEL BRAND

COATED ABRASIVES

belts • rolls • sheets • discs • specialties

For more details circle NED-602 D1 on enclosed inquiry slip

COMPACT, 3-OUNCE TIME DELAY RELAY

Worth a closer look . . . the Heinemann Type A Silic-O-Netic Relay. It's small, but nevertheless offers these big performance specifications:

- *Time Delays:* from ¼ to 120 seconds
- *Switching:* DPDT at fast snap-action speed
- *Contact Capacity:* 3 amps at 120V AC; 1.5 amps at 240V AC (non-inductive load); 1 amp at 50V DC; 0.5 amp at 125V DC.

Bulletin T-5002 gives full details. Send for a copy.

HEINEMANN ELECTRIC COMPANY

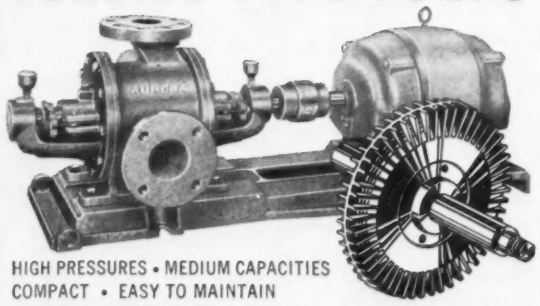
106 Plum St., Trenton 2, N.J. S.A. 1798

For more details circle NED-603 D1 on enclosed inquiry slip

HIGH FLEXIBILITY AT LOW COST with

AURORA® APCO®

TURBINE TYPE PUMPS



HIGH PRESSURES • MEDIUM CAPACITIES
COMPACT • EASY TO MAINTAIN

Broad flexibility of application provided by steep head curves . . . variation throughout the curve with minimum change of horsepower requirement . . . accommodation of a wide range of liquids with viscosity to 600 S.S.U. . . . easy field conversion from right to left-hand operation . . . and capacity increased or decreased merely by changing channel rings and impeller.

Pressures to 400 PSI. Capacities to 150 GPM. Temperatures to 275° F. (with water jacketing to 700° F.).

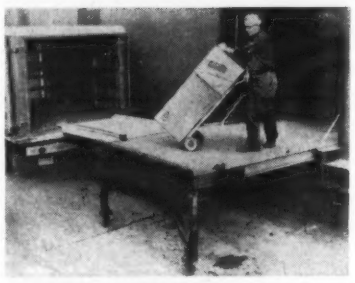
WRITE FOR BULLETIN S-111

AURORA Always PUMPS

AURORA PUMP DIVISION
THE NEW YORK AIR BRAKE COMPANY
1180 LOUCKS • AURORA, ILLINOIS
LOCAL DISTRIBUTOR IS LISTED IN THE YELLOW PAGES OF YOUR PHONE BOOK

For more details circle NED-604 D1 on enclosed inquiry slip

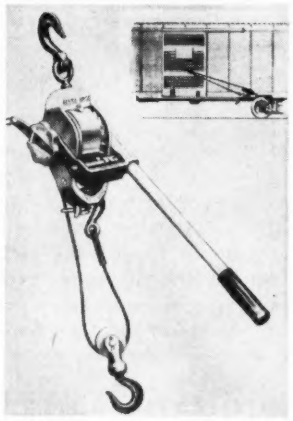
DOCK EXTENSION
for narrow alley truck loading



Small power hoist raises and lowers this dock extension platform to and from its in-use position. Designed for safe and efficient truck loading in narrow alleys, it allows truck to back up flush from either or both sides. The drawbridge type hinged model fits flat against the building when not in use, with its legs automatically retracted into the platform framework. Alternate model is housed in a shallow pit beneath the present dock or warehouse floor. It can also be made to rest on top of the dock or floor. Platform is drawn out into the alley for use and recessed when not in use. Standard preassembled and special sizes and capacities are available. • **AAA Equipment Co.**, Box 181, Chicago 50, Ill.

For more details circle NED-605 D1 on enclosed inquiry slip

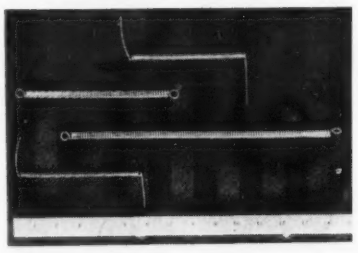
CAR DOOR OPENER
also usable for pulling applications



Opening and closing of heavy or stuck box car doors are facilitated with this car door puller. Two models of this ratchet type device have 30 and 20-ft lengths of steel cable and pulling capacities of 3000 lb with double lines and 1500 lb with single line. A folding crank handle speeds cable rewind. The drum and working parts are protected by an alloy aluminum frame. Features include snap-on reversible handles, self-aligning cable guide, and three drop-forged hooks. They weigh 13 and 10 lb, respectively. • **Beebe Bros. Mfg. Co.**, 2724 Sixth Ave. S., Seattle 4, Wash.

For more details circle NED-606 D1 on enclosed inquiry slip

WIRE HEATING ELEMENTS
operate at up to 2050° F

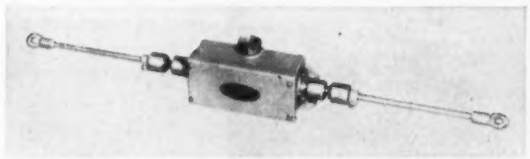


Long-life service at operating temperatures up to 2050° F is afforded by low-cost, low-growth heating elements made from iron-chromium-aluminum resistance Alloy 750. While resistivity of the highly ductile and mechanically stable alloy is only 750 ohms/cmf at 68° F, its increase in resistance from room to operating temperature is high. Thus, fewer feet of the wire are required to produce the hot ohms necessary to obtain a given temperature. Alloy is available in a range of wire and ribbon sizes. • **Hoskins Mfg. Co.**, 4445 Lawton Ave., Detroit 8, Mich.

For more details circle NED-607 D1 on enclosed inquiry slip

PUSH-PULL LIMIT SWITCH
travel length is adjustable

Heavy duty eyelets on the end of each push-pull rod adapt the No. 9439DW2 limit switch for the attachment of operating cables. The push-pull unit can be



used for rigging safety devices and for adjusting the travel of such heavy equipment as hoists and winches. Two stop collars on the operating rods adjust the travel length. Switch is rated for 600 v ac-dc and contacts will handle 10 amp, 60 cycles ac or 2 amp non-inductive dc. A ½-in. conduit tap is standard on the double-limit, normally-closed unit. Price is $146. • **Atlee Corp.**, Monitor Controller Div., 99 Grove St., Rockland, Mass.

For more details circle NED-608 D1 on enclosed inquiry slip

58,900 LBS.

That's the *minimum* you get with half-inch diameter Driv-Lok Shear-Proofs. Through all diameters, these remarkable pins give you twice the shear strength of ordinary pins, whether solid or spring type. Installation? Just drill and drive!

Compare for Yourself

For versatile, economical and positive fastening, specify Driv-Lok. Give us a call, or write for your free catalog today.

Standard Type A Shear-Proofs (shown) are stock. Samples available on request.

MINIMUM SHEAR VALUES IN POUNDS			
Diameter	Slotted Spring Pins	Coiled Spring Pins HEAVY DUTY	Shear-Proof DRIV-LOK PINS
3/32"	1000	1030	2040
1/8"	2100	1840	3690
5/32"	3000	2880	5720
3/16"	4400	4140	8240
1/4"	7700	7360	14720
5/16"	11500	11500	22960
3/8"	17600	16580	33160
7/16"	20000	22540	45000
1/2"	25800	29440	58900

DRIV-LOK SALES CORPORATION
717 Park Ave., Sycamore 2, Illinois

For more details circle NED-609 D1 on enclosed inquiry slip

for **CORROSIVE SERVICE**

wire cloth

In many metals including . .
STAINLESS STEEL
MONEL • NICHROME
PHOSPHOR BRONZE
ALUMINUM
BRASS • COPPER

For many uses involving . . .
FILTER CLOTH
SIEVES • STRAINERS
SCREENS
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WIRE GUARDS
BOLTING CLOTH
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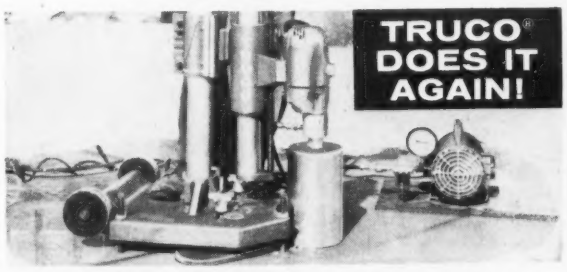
If you have a tough corrosion problem and need wire cloth or wire cloth parts, here's a source of supply that knows the answers. We are proud of the quality of our cloth . . . accurate mesh count, close tolerance wire diameter, precision weaving . . . plus the know-how necessary to specify the proper alloy for your service conditions.

NEWARK ACCURACY

Newark Wire Cloth COMPANY
351 Verona Avenue • Newark 4, New Jersey

For more details circle NED-610 D1 on enclosed inquiry slip



Tru-Vac® Vacuum Pad anchors machine to drill 300 holes up to 6" O.D. in 9" extra hard aggregate with 4 to 6 rods per hole.

PROJECT: Methodist Hospital of Central Illinois, Nurses' Dormitory, Peoria, Ill. **EQUIPMENT:** Truco Model A Portable Diamond Drilling Machine; Truco Tru-Vac Vacuum Pad; Truco Diamond Drill Bits. **JOB:** drill nearly 300 holes in lift floor slabs 9" thick, extra hard aggregate, heavily reinforced with rods 1" to 1¼" dia.; most holes had 4 to 6 rods. Holes 2" to 4" for electrical services; 3" to 6" for water, sewer, fire lines.

No anchor holes allowed, no ceiling against which to jack telescoping center column of Truco machine. Contractor used Truco Tru-Vac Vacuum Pad to anchor machine to floor with up to 1000 actual pounds of vacuum. Holes averaged under 20 minutes each including set-up. Write for Bulletin SC-7.

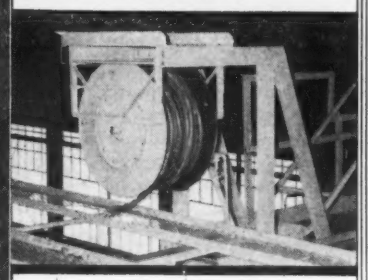
TRUCO MASONRY DRILLING DIVISION
Wheel Trueing Tool Company
202-3200 W. DAVISON AVENUE • DETROIT 38, MICHIGAN

For more details circle NED-611 D1 on enclosed inquiry slip

SEND FOR THIS

free illustrated brochure. Shows how hose reels speed production, increase hose life, boost safety and reduce costs wherever hose is used.

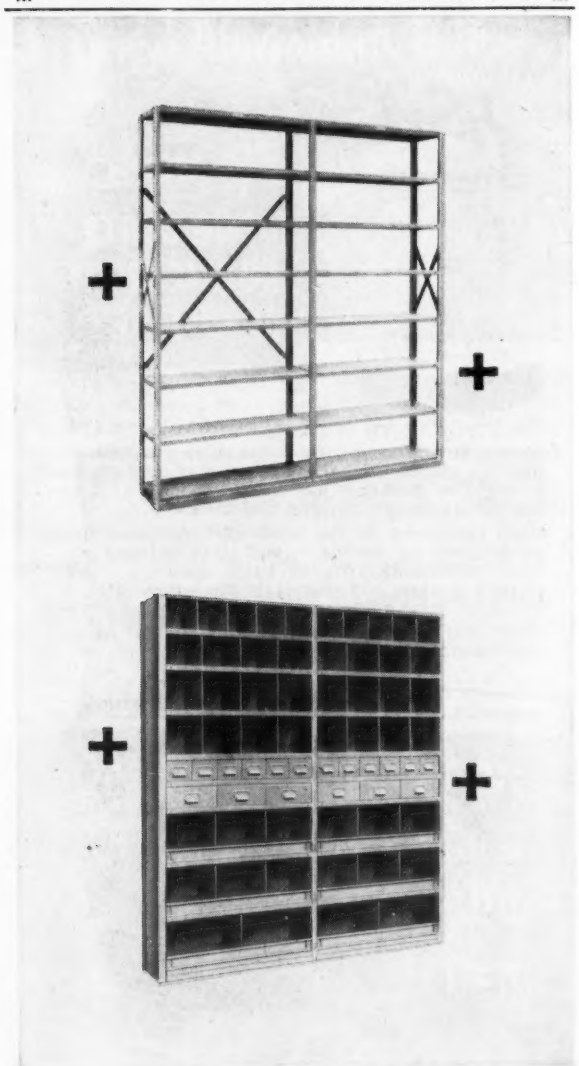
10 IDEAS FOR IMPROVED *INDUSTRIAL* HOSE HANDLING



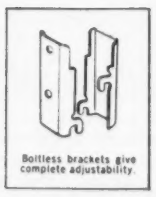
REELS BY HANNAY

CLIFFORD B. HANNAY & SON, INC., WESTERLO, N. Y.

▲ For more details circle NED-612 D1 on enclosed inquiry slip ▲



ADD UP THE PLUSSES AND YOU'LL GET THE ANSWER!

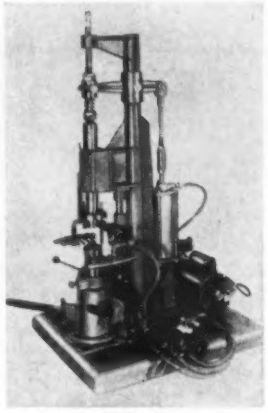


DeLuxe steel shelving by Royal features these significant extras: I-beam uprights for extra strength, double-thick steel end panels to take extra weight. Patented boltless construction allows 15-minute section assembly—without tools. Meet changing needs more easily with a wide range of shelf units, bins, doors, drawers and dividers. Simplicity of design. Flexibility in use. Easy adaptability to other makes. You can't beat the convenience! You can't beat the service! Call or write DeLuxe Metal Products Division, ROYAL METAL MANUFACTURING COMPANY, Dept. 25-D, One Park Avenue, New York 16, New York.

DELUXE

▲ For more details circle NED-613 D1 on enclosed inquiry slip ▲

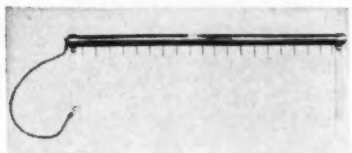
GLASS TUBE FABRICATOR
is button stem, wafer making unit



Small production runs of special glass tube parts as well as laboratory applications are handled by this Model 105-BSTI single-position button stem and wafer making machine. It makes all types of button stems up to 1¼-in. diameter. Machine is equipped with air-gas-oxygen or hydrogen-oxygen burners to handle all types of glass parts. The lead wires, exhaust tube, and glass cylinders are loaded into the lower press die. A preset fire heats the glass parts to proper consistency, and the upper die is lowered. Finished stem is removed after rotation stops. • **Eisler Engineering Co.**, 750 S. 13th St., Newark 3, N. J.

▲ For more details circle NED-614 D1 on enclosed inquiry slip ▲

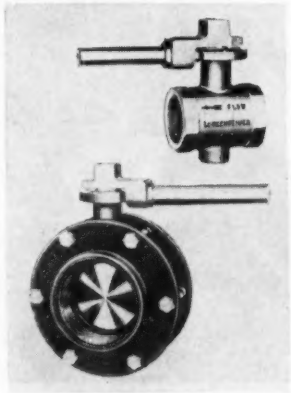
STATIC NEUTRALIZING BAR
installed over web or belt materials



Model 60 self-induction type static neutralizing bar is intended for web material or conveyor belt applications where conditions rule out the use of electrically-operated equipment. Bar extends across the material with ionizing points ½ to ¾ in. from web. It is usable on certain presses where presence of ink solvents constitute a hazard, as well as on coating and spreading machines, calenders, and rewinders where static on driving and conveyor belts may build up. Bar is a ¾-in. aluminum tube made to desired length, with stainless steel wire points. • **Portland Co.**, 58 Fore St., Portland, Maine.

▲ For more details circle NED-615 D1 on enclosed inquiry slip ▲

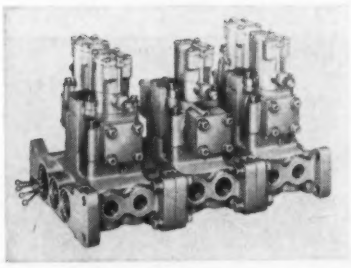
BUTTERFLY VALVES
cover pipe sizes from 2 to 18 in.



Rated for 150-psi service, line of butterfly valves covers a pipe size range from 2 to 18 in. They have nickel-plated cast iron or cast steel bodies with stainless steel trim. For special applications, alternates include rubber or ceramic lining, Monel trim, and aluminum-bronze disks. O-ring seals assure positive closure on pressure or vacuum. Valves require no lubrication, and they open and close in a quarter-turn. Gear operation is optional in large sizes. Various pipe connection arrangements are offered. • **Lunkenheimer Co.**, Beekman Street & Waverly Avenue, Cincinnati 14, Ohio.

▲ For more details circle NED-616 D1 on enclosed inquiry slip ▲

MANIFOLD SUBBASE
for plug-in control valves



Manifold mounting of up to ten ½-in. single or double solenoid Speed King four-way plug-in control valves is possible with the multiple manifold subbase. Each space saving "building block" unit of aluminum has common inlet, exhaust, and conduit ports, with provisions for O-ring seals and connecting bolts for end-to-end ganging. Built-in plug connectors complete the electrical connections. Cylinder ports are tapped for ½ or ¾-in. NPT side or bottom connection. Common inlet and exhaust ports are tapped for 1-in. NPT. Valves are for 35 to 250-psi air service or, with an external pilot supply, vacuum to within 1 in. Hg absolute. • **International Basic Economy Corp.**, Bellows-Valvair Div., 454 Morgan Ave., Akron 11, Ohio.

▲ For more details circle NED-617 D1 on enclosed inquiry slip ▲

ANY TYPE OR SIZE USG® BRUSH FOR FRACTIONAL HP OR INDUSTRIAL MOTORS

Many successful applications have been made on all types and sizes of rotating electrical equipment with USG motor and generator brushes and contacts manufactured by The United States Graphite Company. USG brushes are available in OEM production quantities or for replacement purposes in the following grades: carbon, carbon-graphite, electro-graphitic, graphite and metal-graphite. Special grades can be developed to meet your specific needs.

Write today for Engineering Handbook B-56 and the Brush Grade Supplement.

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN
B-282-1

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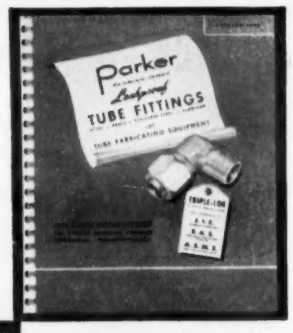

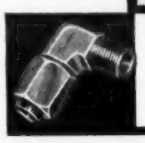

Pick the right tube fitting quicker with this 128-page Parker Data Book

All the data to design or "tube up" an industrial system is included in this 128-page Parker Tube Fittings Catalog. Guides you in proper tube selection. Gives installation hints, also descriptions and dimensions of all Parker Fittings: "Triple-lok," "Ferulok," "Intru-lok," "Weld-lok," "Braze-lok," in steel and stainless steel, copper, aluminum, brass, for any industrial system from instrument lines to high pressure hydraulic lines.

Ask your Parker distributor, listed in the Yellow Pages, for a Parker 4300 Catalog. Or write . . .

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A DIVISION OF PARKER-HANNIFIN CORPORATION

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TRIAL SAMPLE

Of World-Famous WHITMORE'S Lubricants NOW IN AEROSOL SPRAY-ON CANS!

WIRE ROPE SPRAY LUBRICANT

Exclusive formulas for lubricating and protecting wire rope, chain, springs. Penetrates to the core of wire rope minimizing internal friction and increasing usable life up to 300%—special protective qualities absolutely eliminate corrosion—non-gumming qualities reduce "carry-back"—packaged in handy 16 oz. aerosol spray-on containers or in bulk containers—send for a free trial sample.

68 YEARS OF LEADERSHIP LUBRICATING THE FOLLOWING:

- Open Gears, Dipper Sticks, Cams
- Hydraulic Units, Torque Converters
- Speed Reducers
- Enclosed Gear Cases
- Roller, Ball, and Sleeve Bearings
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Est. 1893
THE WHITMORE MANUFACTURING CO.
LUBRICATING ENGINEERS
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Designers & Engineers

only
CLEVELAND'S NEW MOTORIZED SPEED VARIATOR
offers you all these important advantages

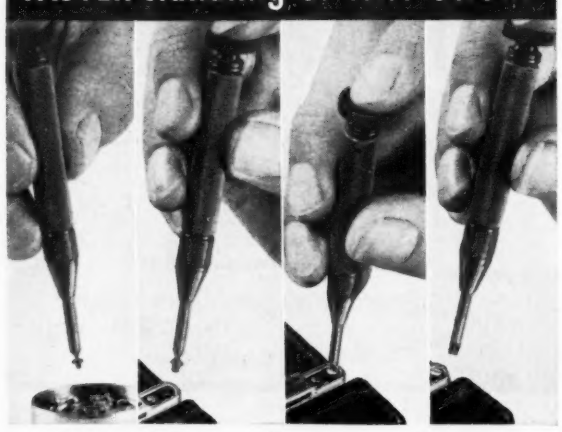
- Requires only slightly more space than equally rated standard electric motor
- Provides variable output speeds over 9:1 and 6:1 ranges
- A complete line featuring 5 sizes from ⅓ to 15 HP
- Integral "pancake" style AC radial air gap motors conforming to NEMA design "B" specification
- Provides speed holding accuracy up to 0.1% with uniform loading
- Output speeds smoothly and easily adjusted while operating under load

Write today for free, illustrated Bulletin K-275. It gives detailed engineering information on the New Motorized Speed Variator.

CLEVELAND WORM & GEAR DIVISION
Eaton Manufacturing Company
3283 East 80th Street • Cleveland 4, Ohio

For more details circle NED-621 D1 on enclosed inquiry slip

FASTER Handling of TINY Screws



PICKS UP/INSERTS/TIGHTENS/RELEASES AUTOMATICALLY

Fast, smooth, one hand operation

NON-MAGNETIC

For screw sizes No. 4 to No. 0 and smaller

HODAT T. M.

AUTOMATIC SCREW-HOLDING DRIVER

Write for literature to:

HODAT, 3017 Summit St. • Oakland, California

For more details circle NED-622 D1 on enclosed inquiry slip

Features information NEVER AVAILABLE BEFORE in slide chart form

For the first time, with slide chart ease, convenience, and accuracy, you can put your finger quickly on a host of facts such as speeds and feeds for machining, drilling and threading stainless steels.

Second side is an up-to-date version of Carpenter's earlier issue Slide Chart. Contains all you need know to select the proper stainless for drawing, forging, heading, welding, roll forming, etc. Get your copy of this pocket-size reference today!

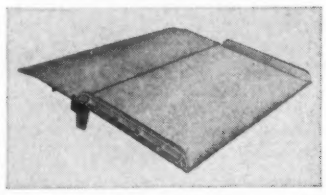
THE CARPENTER STEEL COMPANY
118 W. Bern St., Reading, Pa.

Please send me a copy of your new Carpenter Stainless Slide Chart. (Please print)

Company Name_____
Individual Name_____ Title_____
Address_____
City_____ Zone____ State____

For more details circle NED-623 D1 on enclosed inquiry slip

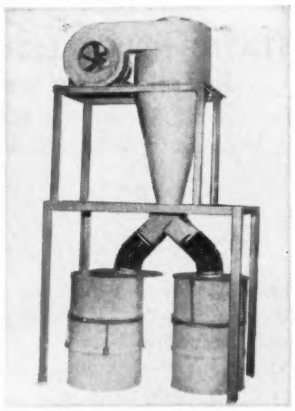
LOADING RAMPS
in 48 sizes for loads to 9000 lb



Pin-hinged, self-supporting, lightweight loading ramps, designed for use with Super Strength aluminum dockboards, have capacities ranging from 5000 to 9000 lb. They are made of aluminum in 48 sizes and solve problems caused by height differences between docks and truck bed or railroad car. Fork lift brackets, adjustable holding bars, and abrasive-finished nonskid surfaces are optional. Ramps and dockboards are easily separated and adjusted by one man. • **F. H. Langsenkamp Co.,** 229 E. South St., Indianapolis 25, Ind.

For more details circle NED-624 D1 on enclosed inquiry slip

DUST COLLECTORS
in single and dual drum systems



Series of packaged dust collection systems now includes single and dual drum units. Dust is discharged directly into conventional 55-gal drums which are attached to Dustkop collectors through an unusual lid design. Lid attaches to drums by a fast-acting clamp which fastens a steel girdling band around each drum, and through four stiff springs attached to lugs on the lid. In dual drum units, one drum continues receiving dust while second is removed for emptying. • **Aget Mfg. Co.,** 1384 Church St., Adrian, Mich.

For more details circle NED-625 D1 on enclosed inquiry slip

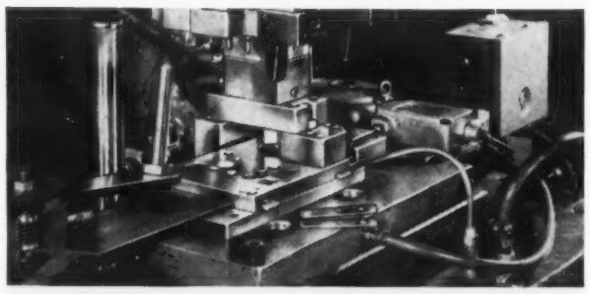
FLOOR MACHINE RAMP
speeds transfer from floor to floor

One man can quickly and easily move heavy floor machines up and down stairs with this lightweight ramp. Also suited for truck loading and other uses, the ramp has built-in safety stops which will hold the machine at any point, preventing loss of control. Made of aluminum, its two telescoping sections are adjustable to any length to 15 ft. Extra interlocking sections can be added. Rubber feet at the bottom prevent slipping. • **Orchard Hill, Inc.,** Mogadore, Ohio.

For more details circle NED-626 D1 on enclosed inquiry slip

TAPPING UNIT
is built into progressive dies

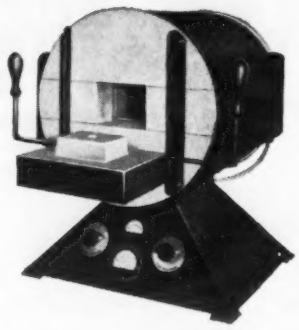
Because it fits right into progressive dies, this tapping unit eliminates need for extra tapping operations. It will handle up to ⅜-in. tap size with minimum



center distance between tap holes of 2½ in. Actual production has proved 75 strokes per minute, tapping four threads in the workpiece. Maximum tap stroke is ⅝ in., or longer on special order. Unit is hinged to speed tap changes, and mounting can be altered to suit die design requirements. Pictured is a progressive die with built-in tapping unit which will pierce, tap, stamp, and cutoff in a single operation. • **Laughter Corp.,** 319 Leo St., Dayton 1, Ohio.

For more details circle NED-627 D1 on enclosed inquiry slip

Hevi-Duty
"G-07-PT" FURNACE
temperatures to 2600° F.



This furnace is designed for high-temperature work where accurate control and uniformity are important. Controls, which provide 48 temperature gradients, and an indicating pyrometer are located in the pyramid base. For greatest uniformity in the heating chamber, three heating elements are installed over and three are beneath the refractory muffle.

Write for Bulletin 957 for full details.

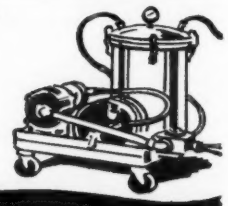
Type	Watts	Chamber			Price
		W.	L.	H.	
G-07-PT	3500	4"	7"	2¾"	$585.00

*Operating voltage either 115 or 230 A.C. only.

HEVI-DUTY
A DIVISION OF BPC BASIC PRODUCTS CORPORATION
HEVI-DUTY ELECTRIC COMPANY, MILWAUKEE 1, WISCONSIN
Industrial Furnaces and Ovens, Electric and Fuel • Laboratory Furnaces • Dry Type Transformers • Constant Current Regulators

For more details circle NED-628 D1 on enclosed inquiry slip

Using TYGON "ATD" Hot Spray PAINT



TWO COATS DO THE WORK OF FIVE

Using Tygon ATD Hot Spray Vinyl Paint you deposit a smooth, run-free 5 mil thick vinyl film in just two passes—equal to five coats of cold sprayed paint! The finished job has excellent adhesion and outstanding corrosion resistance.

Since two coats do the work of five — and since no thinners are needed — and since reduced overspray materially reduces paint loss . . . your savings in time and materials are substantial!

Actually, Hot Spray Painting with Tygon ATD offers cost cutting advantages unequalled by any other method.

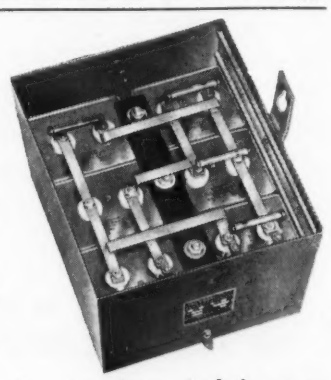
Write today for Bulletin ATD-9

PLASTICS AND SYNTHETICS DIVISION
U. S. STONEWARE
AKRON 9, OHIO

206E

For more details circle NED-629 D1 on enclosed inquiry slip

this UNIPAK® can INCREASE YOUR ELECTRICAL CAPACITY BY 20%



It's no secret. It's one of Sprague Electric's power factor correction capacitors—proved in engineering principle . . . made by the world's largest capacitor manufacturer . . . listed by Underwriters' Laboratories . . . used by leading manufacturers the world over. Here's why—

Motors and similar equipment in your plant use both kilowatts (working current) and kilovars (magnetizing current). The kilowatts you buy from your electric company. The kilovars you can best supply yourself with Sprague power factor correction capacitors. And the more you supply, the greater your useful power, the less the load on present wiring, the lower your electric bill.

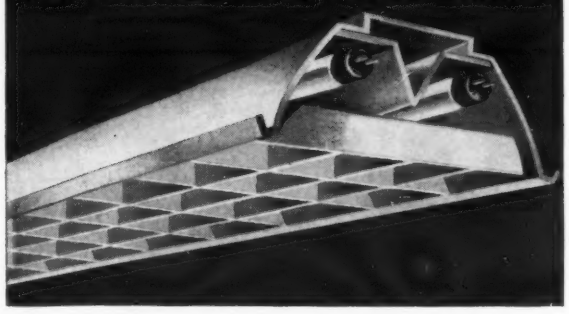
You can get a free estimate of potential savings in your plant, or literature giving more details by writing Sprague Electric Co., 183 Marshall Street, North Adams, Mass.

In Canada, write John R. Tilton Ltd., 51 McCormack Street, Toronto 9, Ont.

SPRAGUE®
world's largest capacitor manufacturer

For more details circle NED-630 D1 on enclosed inquiry slip

Use Aluminum for Reflectors That Last!

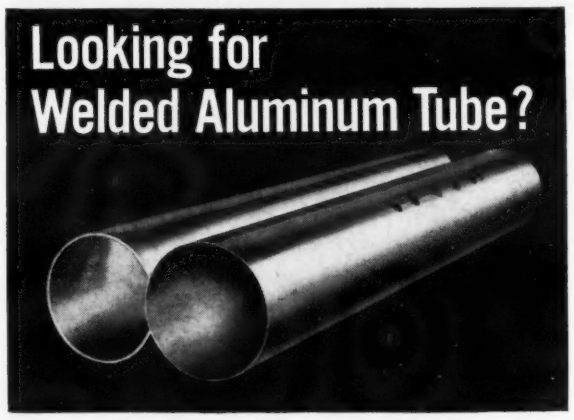


Alcoa® Lighting Sheet with the famous Alzak® finish makes the best reflectors for lighting fixtures. Both diffuse and specular surfaces defy corrosion for lasting reflectivity. Call your nearest Alcoa distributor or Alcoa sales office.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-631 D1 on enclosed inquiry slip

Looking for Welded Aluminum Tube?

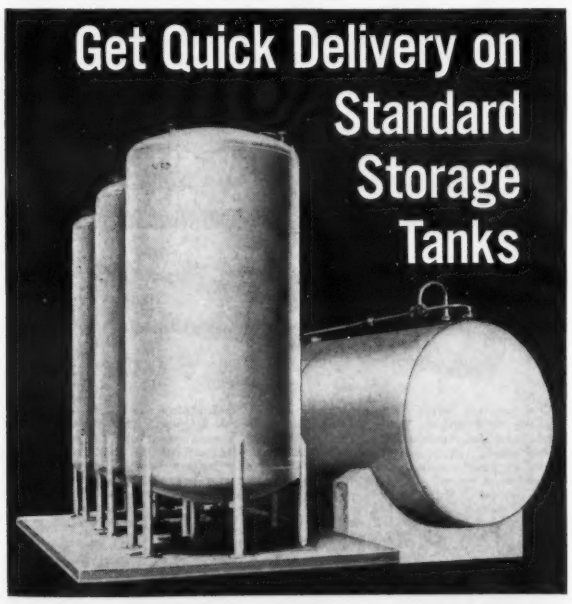


Alcoa's Jobbing Division makes it in a wide range of wall thicknesses, diameters and lengths. High-volume runs or custom-engineered small runs. Latest automatic welding equipment meets aircraft, military and code requirements, assures thin-wall tube to close tolerances. Call your nearest Alcoa sales office for design and engineering help.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-632 D1 on enclosed inquiry slip

Get Quick Delivery on Standard Storage Tanks

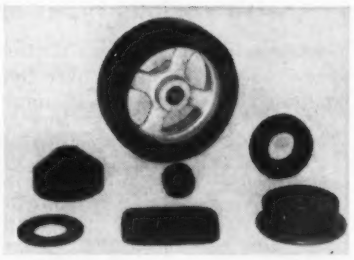


Alcoa's Jobbing Division puts them together quickly from stocked parts . . . cuts delivery time. Sizes from 5,800 to 21,400 gal. Horizontal or vertical. Specials, too. We build pressure vessels to your requirements, give you design and engineering help. Call your nearest Alcoa sales office for details.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-633 D1 on enclosed inquiry slip

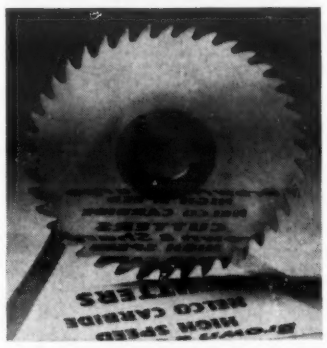
CUSTOM RUBBER PRODUCTS include truck wheel recaps, rollers



Solid rubber tires for caster and pallet truck wheels, rollers, and pads are typical of rubber products which can be custom molded to size by this company. The Vita Cap open steam curing process allows any degree of rubber hardness. Cured rubber handles heavy loads and minimizes vibration to machines and buildings. • **Graden Recapping & Supply Inc.**, 815 W. Cherry St., Bluffton, Ind.

For more details circle NED-634 D1 on enclosed inquiry slip

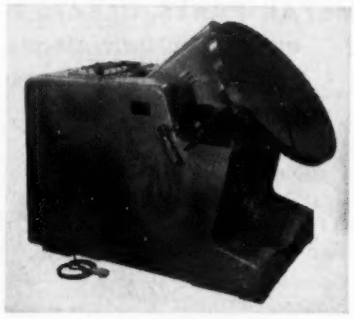
HIGH SPEED SLITTING SAWS in 18 diameters from 2½ to 6 in.



Mirror-like finish on Sawperior line of circular slitting and cut-off saws affords free-cutting action without seizing, even on stringy materials. The smooth hard-glazed finish also resists rust and corrosion as well as galling and scratching. Saws are made of high speed steel in 18 diameters from 2½ to 6 in. Tooth geometry and mirror finish extend life between sharpenings up to four fold. • **Brown & Sharpe Mfg. Co.**, Providence 1, R. I.

For more details circle NED-635 D1 on enclosed inquiry slip

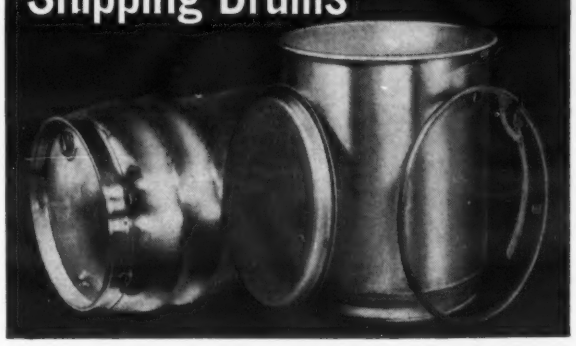
TURNTABLE POSITIONER handles up to 2000-lb assemblies



Weldments and other assemblies weighing up to 2000 lb can be mounted on the 32-in. diameter faceplate of Model PM-1051 turntable positioner. Preselected angular positioning of the table from vertical to 15 degrees from horizontal is automatically achieved by adjustment of a control protractor and pushbutton energizing of the drive motor. Right or left-hand table rotation at selected speeds from 0 to 4 rpm is also pushbutton operated. Controls permit jogging of table position and rotation. Machine is mounted on a cast iron frame fitted with casters. All moving parts are mounted in ball or roller bearings and are sealed in an oil bath. • **Boesch Mfg. Co.**, Danbury, Conn.

For more details circle NED-636 D1 on enclosed inquiry slip

Lower Costs With Alcoa Aluminum Shipping Drums

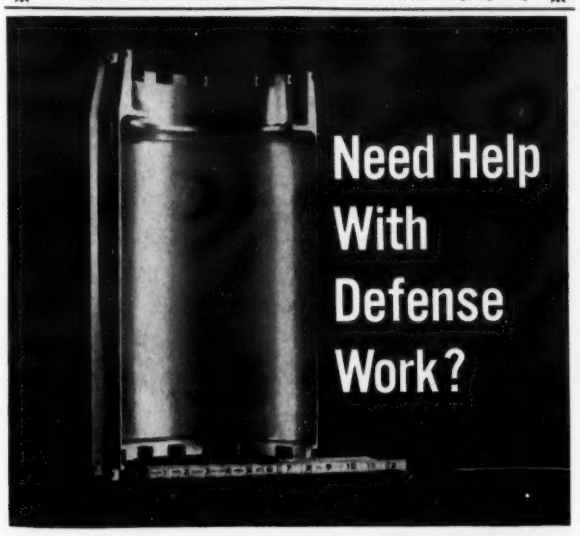


Lightweight, strong Alcoa® Aluminum shipping drums increase payloads, cut dead weight, save on labor and handling. Nonscaling, nonsludging, noncontaminating, chemically neutral to a wide range of liquids and food products. 55-gal general-purpose drum . . . open-top model in 29-, 45- and 55-gal sizes. Call your nearest Alcoa sales office.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-637 D1 on enclosed inquiry slip

Need Help With Defense Work?



Alcoa's Jobbing Division, with complete aluminum design, engineering and fabricating facilities, can help you meet production schedules. We're experienced in missile parts. Above section for U.S. Air Force missile roll-spun from a preformed part by Alcoa Jobbing Division. Call your nearest Alcoa sales office to get jobbing help.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-638 D1 on enclosed inquiry slip

Need Aluminum Design and Fabrication Help? Alcoa's Jobbing Division Can Provide It.

If you need specialized equipment or personnel for any kind of aluminum design and fabrication, call on Alcoa's Jobbing Division. We're fully equipped to do one-of-a-kind "specials," long-run productions, or the *unusual*, including defense work.

The Jobbing Division, utilizing new developments, new processes in aluminum, is ready to help with that unusual job that may be giving you a headache. Save tooling costs and investment in additional equipment. Call your Alcoa sales office and ask about the Jobbing Division's services that can help you right now.

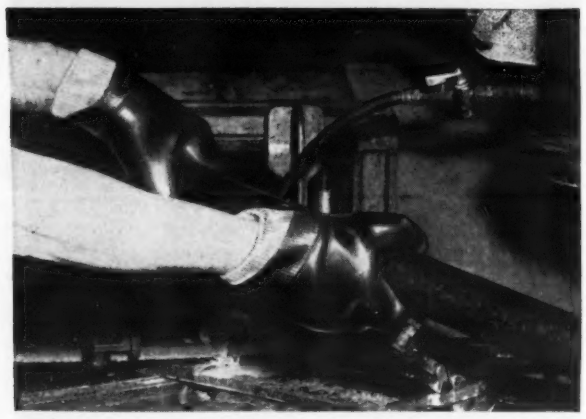
FREE 16-page booklet. Mail coupon for illustrated booklet describing the Alcoa Jobbing Division's fabricating facilities and design assistance that are ready to work for you. They are the world's finest.

ALUMINUM COMPANY OF AMERICA
859-D Alcoa Building, Pittsburgh 19, Pa.

Please send my free copy of *Aluminum Fabricating Facilities of the Alcoa Jobbing Division.*

NAME _____ TITLE _____
COMPANY _____
STREET ADDRESS _____
CITY _____ ZONE _____ STATE _____

ALCOA ALUMINUM
JOBBING DIVISION



Edmont Case No. 584: Handling oily steel tubing, leather palm gloves became slippery and unusable in 10 shifts. Edmont recommended an extra-flexible plastic coated glove with non-slip grip (No. 404 Snorkel), which wore 12½ shifts, reducing glove costs 26.6%.

Job-fitted glove replaces leather

In the case above, the *job-fitted* glove gave longer, safer service because of its non-slip grip and resistance to oil and abrasion. 2-piece jersey liner, seamless palm, wing thumb and preflexed fingers assure extra flexibility, dexterity and comfort.

Free Test Offer to Listed Firms: Tell us your operation. From more than 50 types, we will recommend correct *job-fitted* gloves and send samples for on-the-job testing.

Edmont Inc., 1240 Walnut Street, Coshocton, Ohio—In Canada, write Edmont Canada Ltd., Cowansville, Quebec.

Edmont
JOB-FITTED GLOVES

▲ For more details circle NED-639 D1 on enclosed inquiry slip ▲

If you use SET SCREWS

specify MOORE and be sure of

- *precision quality*
- *speedy delivery*
- *the right price*

THERE'S a Moore Set Screw exactly right to meet your needs . . . one or a million; standards, miniatures or specials. Problem-solving engineering service available. Specify Moore and *be sure*. Dependable quality for over 80 years.

Write for catalog.

MOORE SET SCREWS

George W. Moore, Inc.
since 1880
94 Beaver St., Waltham 54, Mass.

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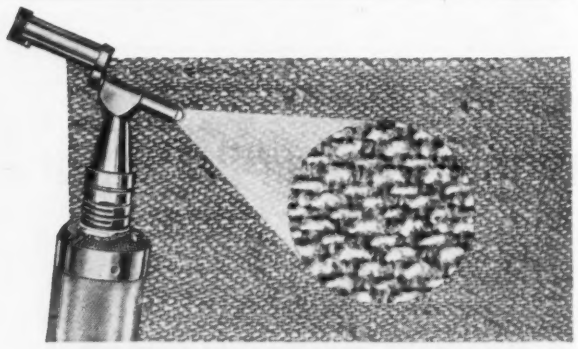
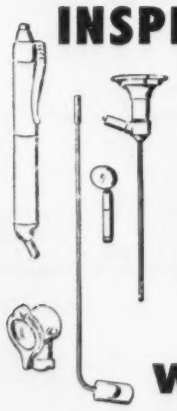


INSPECTION LIGHTS

New free catalog now ready



New catalog shows 12 basic types for surface and interior inspection. Includes prefocused or adjustable types, lights with magnifying lenses, mirrors for angle vision, miniature borescopes, battery handles, transformers, etc. Separate listing of 14 types of miniature lamps. Write for your copy today.

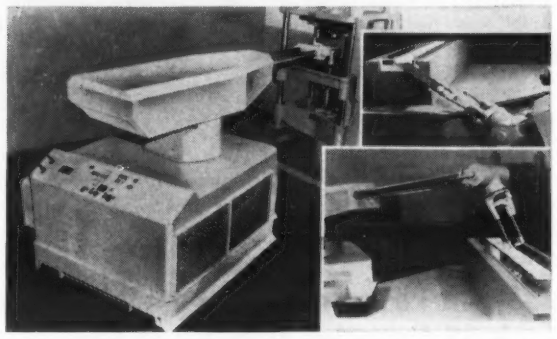
WELCH ALLYN, INC.
10 Jordan Rd., Skaneateles Falls, N. Y.

WELCH ALLYN
LIGHTS THE WAY

▲ For more details circle NED-641 D1 on enclosed inquiry slip ▲

AUTOMATIC ACTUATOR
can be "taught" many operations with various types of equipment

Various types of repetitive routines performed by plant personnel can be taken over by the Unimate, a self-contained robot type automatic actuator. Its arm



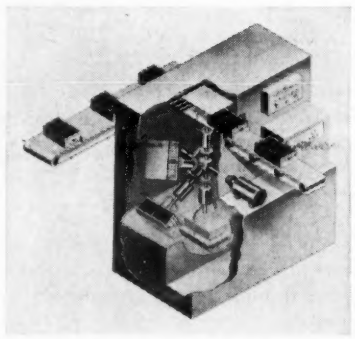
duplicates the functions of the human arm and its "brain" which "remembers" 200 sequential commands directs the arm to act in accordance with stored information. The actuator "learns" to perform a task by being led through the motions once.

A variety of hands or hand tools for a particular job can be fitted on the arm. These might include clamps, pneumatic wrenches and screwdrivers, and paint spray guns. The arm telescopes in length from 3 to 7 ft and moves horizontally in a 220-degree arc and 60 degrees vertically. Extended arm reaches from within 4 in. of the floor to 90 degrees above. A wrist at the end of the arm bends and rotates, and is terminated in a pneumatically operated hand resembling a lobster claw.

The "brain" is a Dynastat magnetic memory drum which can be read while standing still. It can also control external devices. Maximum load is 25 lb at normal operating speed and positioning accuracy is ±0.050 in. on each dimension. Several accessories are offered. • **Consolidated Controls Corp.**, Bethel, Conn.

▲ For more details circle NED-642 D1 on enclosed inquiry slip ▲

METAL PARTS CLEANER
automatic unit cleans tote box loads of parts ultrasonically



Individual tote box loads of metal parts or assemblies are automatically loaded, ultrasonically cleaned and degreased, dried, and unloaded by the AutoSonex V-72 loaded tote box cleaner. Parts in boxes are immersed in a degreasing solution powered by an ultrasonic unit and rinsed with pure distillate spray and vapor. Chips, oil, and other contaminants are removed, even from blind passages.

Loaded boxes are fed into the machine on conveyors and automatically locked onto one of six rotating platforms. When the process is completed, the box is returned to the load-unload point and discharged onto a conveyor. Hot or cold solvent processes are used with ultrasonics to remove all oils, drawing lubricants, chips, and polishing abrasives, leaving moderate rust-proofing, if desired. Floor space required is 6 x 10 ft. • **Autosonics, Inc.**, 4217 Chestnut St., Philadelphia 4, Pa.

▲ For more details circle NED-643 D1 on enclosed inquiry slip ▲

ROTARY MOWER
mounts under 9-hp Speedex tractor

A 44-in. swath is cut by this rotary mower shown mounted underneath a 9-hp Model S-23 Speedex tractor. Mower is powered directly from tractor's Briggs & Stratton engine and is full-floating to follow ground contours closely and avoid scalping. It can be attached to tractor in less than 15 sec. Improved tractor has a new spring seat and variable speed drive which adds to its versatility. • **Speedex Tractor Co.**, 379 N. Freedom St., Ravenna, Ohio.

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High Output with **ROUSSELLE**

DOUBLE-CRANK PRESSES

SPEED UP PRODUCTION with these versatile 40-ton presses. Large bed and ram areas make them ideally suited to handle wide rolls or sheets . . . do multiple punching, steel-rule die work and other high output operations. For rapid shockless starting and stopping, presses can be equipped with electrically controlled "Econo-Air" friction clutch . . . Ask for new catalog.

Choice of over 30 models and types in 5 to 60-ton sizes

SERVICE MACHINE CO.
Mfrs. of Rousselle Presses
2310 WEST 78TH ST. • CHICAGO 20, ILL.

Rousselle Presses are sold exclusively through Leading Machinery Dealers.

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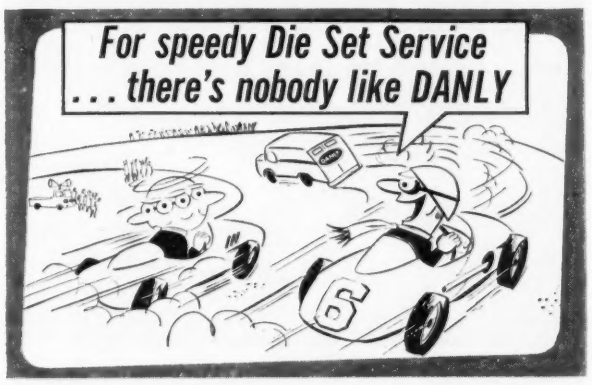
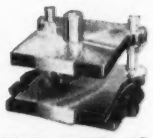


Nobody, but nobody, tends your die set needs with such dispatch as Danly. Whether you want a new Precision Pilot Guide Post for extra ease in die set assembly . . . or a fast order placed for a special die set, you can depend on your nearby Danly man for quick, effective action. Like all 23 Danly branches and distributor assembly plants, he stocks a wide selection of die sets and diemakers' supplies for immediate delivery. Next time you need die set service, call your Danly man. He's as close as your phone — and at your service 'round the clock.

DANLY

NEW INSULATED Demountable Bushings, designed for use in machining mounted dies by electrical discharge, are fully described in new, fact-filled bulletin. Write for your copy.



PRECISION PRESSES, DIE SETS AND DIEMAKERS' SUPPLIES

DANLY

DANLY MACHINE SPECIALTIES, INC.
2100 South Laramie Ave., Chicago 50, Illinois

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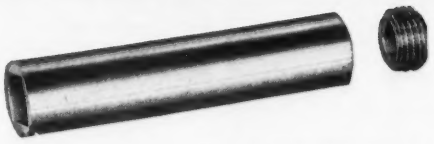
How **SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!**



One of the most difficult problems in toolmaking can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of broached square holes can be had in boring bars, milling cutters and many other applications at a small fraction of the cost of imperfect hand-made square holes. The Sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole broached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the Sleeve. The Sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.

The Sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

SLEEVES MADE IN FOLLOWING SIZES: 3/16, ¼, 5/16, ⅜, 7/16, ½, ⅝, ¾, 1"

Write for Literature

STURDY BROACHING SERVICE, INC.
23514 TELEGRAPH RD., SOUTHFIELD, MICH.

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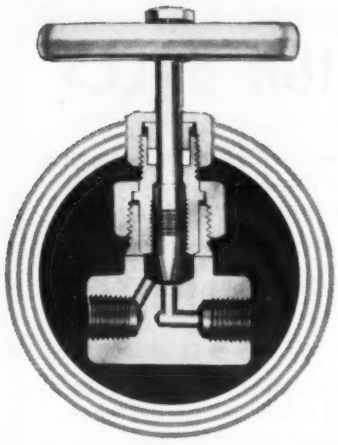


SOLVE YOUR METER MANIFOLD AND CORROSIVE FIELD SERVICE PROBLEMS

AMERICAN® NEEDLE VALVES

Teflon-packed forged steel American Needle Valves eliminate gland leaks, deliver dependable service under the toughest conditions. Stainless or carbon steel precision machined valve bodies are ideally suited for welding. Stainless steel centerless-ground valve stem design makes it simple to repack valves under pressure.

Standard valves design rated for pressures to 5,000 psi at 70°F. Upon request, assembled valves are hydrostatically tested to 10,000 psi (twice rated working pressure) and are individually inspected. Valves also furnished with graphite-impregnated asbestos packing for temperatures above 450°F.

Angle or straight patterns—screwed or union bonnets.

Your American Meter representative will give you full details.

AMERICAN® METER COMPANY
(INCORPORATED ESTABLISHED 1836)
General Offices: Philadelphia 16, Pa.
Sales Offices in Principal Cities

For more details circle NED-648 D1 on enclosed inquiry slip

45 LEVER TYPE

models to choose from!

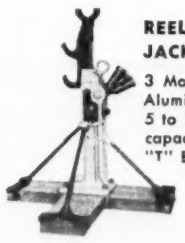
THE WORLD'S MOST COMPLETE LINE

SIMPLEX LEVER JACKS

SINGLE ACTING, RATCHET LOWERING
11 Models, 5 to 20 tons capacity. Full capacity on toe or cap.

EMERGENCY & BRIDGE JACKS
2 Models, 15 tons capacity. Pivot on base.

POLE PULLING & STRAIGHTENING JACKS
3 Models (One aluminum alloy) 5 to 15 tons capacity. Standard of Bell System.



REEL JACKS
3 Models (One Aluminum alloy) 5 to 10 tons capacity. "T" Base.

GEARED JACKS
3 Models, 25 to 35 tons capacity. Side toe lift.

MINE TIMBER JACKS
4 Models (One has trip mechanism). Single and double acting.

TRACK (TRIP) JACKS
13 Models (Five aluminum alloy) Single and double acting.

BELT TENSIONING JACK
5 ton capacity.

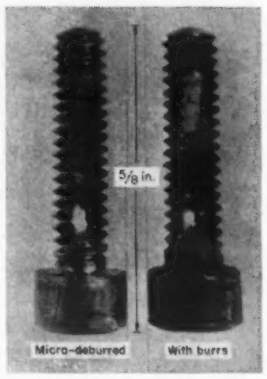
Also Lever type, Cable & Wire Tensioning, Pipe Pushing & Pulling, Tie Remover, Tie Replacer, and Siding & Flooring Jacks.

Look for further information on Hydraulic and Screw Jacks in other advertisements.

TEMPLETON, KENLY & CO.
2565 Gardner Road
Broadview, Illinois

For more details circle NED-649 D1 on enclosed inquiry slip

ULTRASONIC DEBURRING UNIT
removes microscopic burrs on parts



Burrs on machine parts too small to be seen and too large to be tolerated are removed by this powerful ultrasonic equipment. Although not universally applicable, the deburring machine solves many severe deburring problems. In a typical application, stainless steel screws are deburred, cleaned, textured, polished, and given a symmetric radius on rough threads when subjected to ultrasonic radiation for 2 to 6 hr. • **Ultrasonic Systems, Inc.**, 2255 S. Carmelina Ave., Los Angeles 64, Calif.

For more details circle NED-650 D1 on enclosed inquiry slip

AUTOMATIC EMERGENCY LIGHT
operates on battery if power fails

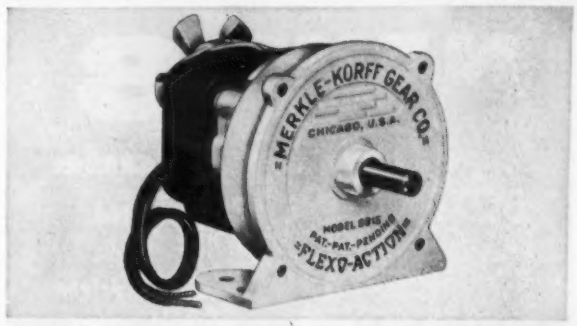
Plugged into any alternating current outlet, Model 2-75 Lifesaver emergency light turns on automatically when power fails. It is powered by a 7½-v dry battery. Two 5-in. floodlights are adjustable to cover any area. Included is a built-in voltmeter and switch for battery testing, and a neon bulb that glows when the unit is plugged in for service. Price is $29.95, less battery. • **U-C-Lite Mfg. Co.**, 1050 W. Hubbard St., Chicago 22, Ill.

For more details circle NED-651 D1 on enclosed inquiry slip

CORROSIONPROOF PUMP
in capacities to 65 gpm

Suited for close-quarter work, three types of vertical, corrosion - resistant, centrifugal pumps can be supplied with ⅓ to 1½-hp open, closed, or explosionproof motors. They deliver up to 65 gpm at heads to 90 ft. They feature mechanical seals; horizontal ports; wide selection of alloy constructions; and threaded, flanged, or tube style connections. • **R. S. Corcoran Co.**, Mound Road at Brandon Avenue, Joliet, Ill.

For more details circle NED-652 D1 on enclosed inquiry slip



HIGH TORQUE FHP GEARED MOTORS DESIGNED FOR O.E.M. INSTALLATION

Here's a fist full of dependable power that will give you a new dimension of performance at surprisingly low cost.

For O.E.M. buyers these gearmotors are *Performance Balanced* to fit the application. They are famous for their rawhide—tough performance and long life service in a wide range of products including: vending machines, office copiers, displays, turntables, ice crushers, photographic equipment, and a host of other equipment where dependable power in a small package is required.

Model variations are almost endless—the important thing is that you get a gear motor performance balanced to your *specific* requirements.

Write for your 8-page catalog today. Better yet, send us drawings or sample product. Our application engineering department will give you helpful suggestions without obligation.

MERKLE-KORFF GEAR COMPANY
220 North Morgan Street • Chicago 7, Illinois

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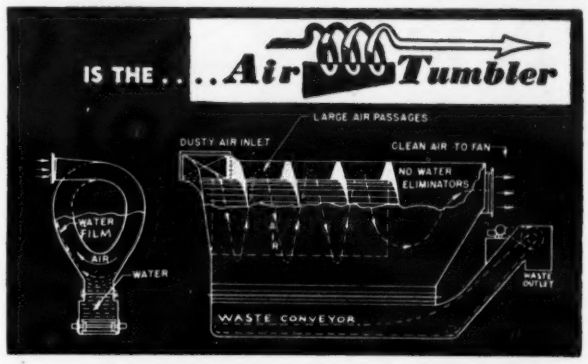
The MASTER of DUST in INDUSTRY



The Wet Collector that becomes Standard Equipment wherever tried because it does a better job at less cost.

More than one million CFM in ONE plant

Write for Bulletin No. 601. Address:

DUST SUPPRESSION & ENGINEERING CO.
P. O. BOX 67 • LAKE ORION, MICHIGAN

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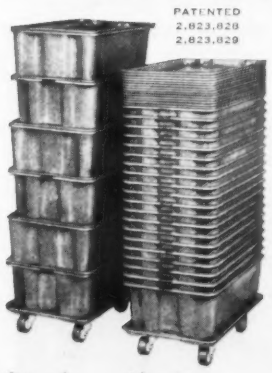
Lewis Containers

SOLVE EVERY HANDLING PROBLEM



Stack-n-Nest® TOTE PANS

Only Lewis Stack-n-Nest tote pans stack **and** nest, within their own dimension, without any mechanical gadgets. Molded in one piece of Fiberglass reinforced polyester . . . can't dent, rust, rot or warp. Available in 8 sizes from 16"x10"x5" to 34"x24"x19", in grey, green, and red. Accessories include pan covers and 4-caster dollies. **Shipment within 24 hours from receipt of order.**

PLASTIBOX UNITIZED ASSEMBLY CONTAINERS

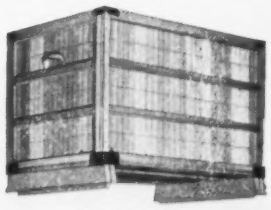
One piece, molded plastic. Strong, smooth, non-corrosive, easily cleaned. Stack securely and afford maximum storage of parts; 4 sizes in green or yellow. Accessories are available for a wide variety of bench or wall mounting. Truck assembly allows boxes to be quickly moved. **Shipment within 24 hours from receipt of order.**

PolyLewton FOOD HANDLING PANS

Stack-n-Nest pans are available in this remarkable material developed for raw food handling. The glass-like surfaces are easily cleaned, have no crevices to harbor bacteria. Inside dimensions are 20"x12"x8", weigh 3¾ lbs., handle up to 50 lbs. **Shipment within 24 hours from receipt of order.**

WOVEN WOOD-and-WIRE HANDLING CONTAINERS

Tough, resilient wood-and-wire webbing is combined with a select hardwood frame, jointed at corners and reinforced with steel corner irons . . . here are husky, long-lived, big capacity containers available in many sizes and styles, including trucks and collapsible boxes. Designed for single or multiple handling with modern handling systems and equipment. **One to three week delivery.**



WRITE TODAY
for illustrated brochures on the complete Lewis material handling container line.

G.B. Lewis COMPANY
404 Montgomery Street, Watertown, Wisconsin

For more details circle NED-653 D1 on enclosed inquiry slip

tubeaxial fans . . .

Aerovent's new Tubeaxial Fan, designed around a new 8-blade "Macheta" Airfoil Axial Flow Propeller, offers top performance against medium pressures at speeds to 3450 RPM. Available in 16", 18", 24", and 30" diameters, this unit combines speed, stamina and modern functional design. Easily installed in present ductwork or engineered to new construction, it's the right answer for resistances to 4" SP. Another outstanding development from Aerovent—America's finest industrial fans and air equipment.

Write for free Bulletin 350

Air deliveries of Aerovent equipment determined in accordance with established and accepted codes and guaranteed by manufacturer.

CERTIFIED PERFORMANCE

Aerovent FAN CO., INC.

ASH and BLAKE STS. PIQUA, OHIO

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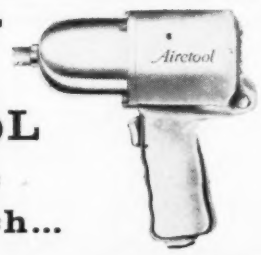
NEW AIRETOOL pneumatic impact wrench...



SPEEDS PRODUCTION . . . CUTS OPERATING COSTS

Designed for continuous, trouble-free operation, Airetool's all new air-operated, pistol type impact wrench is fabricated of heavy duty, aluminum alloy for rugged operation and easy handling; operator torque reaction is minimized. Available in two reversible models with ½" bolt capacity and impact mechanism that does not depend on springs or centrifugal force for operation. Model 625 with ½" drive square, 626 with ⅝" drive square.

Minimum number of parts keeps maintenance low. Other features are high run-down speed, low air consumption, self-contained lubrication and air strainer. For descriptive literature and information, write

AIRETOOL MANUFACTURING COMPANY SPRINGFIELD, OHIO

BRANCH OFFICES New York, Chicago, Tulsa, Philadelphia, Houston, Baton Rouge. REPRESENTATIVES in principal cities of U.S.A., Canada, Mexico, South America, England, Europe, Puerto Rico, Italy, Japan, Hawaii. CANADIAN PLANT: Brantford, Ontario. EUROPEAN PLANT: Vlaardingen, The Netherlands.

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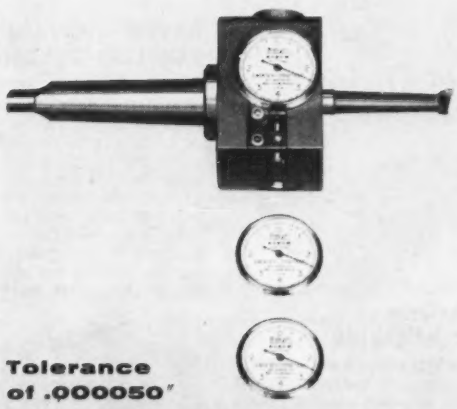
NOW



Tolerance of .000050"

Put your Bokum tool in the Bokumicro-Dial Boring Head*. For set-up, bore a hole a few thousandths undersize. Measure the hole and move the dial indicator (which moves the tool) to the exact reading you wish—you can read directly 50 millionths of an inch! You get absolute accuracy on production runs or tool room work. It's Bokumagic! Write today!

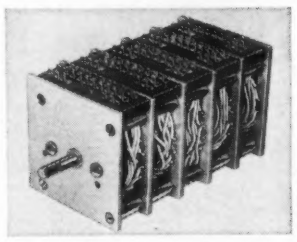
BOKUM TOOL COMPANY, INC.

14775 WILDEMERE AVENUE
DETROIT 38, MICHIGAN

*PATENT PENDING

▲ For more details circle NED-658 D1 on enclosed inquiry slip ▲

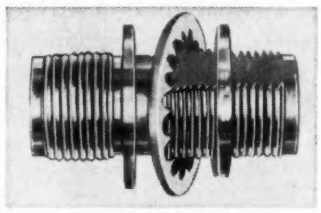
ROTARY TAP SWITCH
has side-mounted terminal boards



Ease and economy of wiring any Daven rotary tap switch are afforded by terminal boards mounted on the sides of the unit. Most switches are available with one, two, or three terminal boards mounted on each deck. Wiring is completed during assembly of the switch, prior to assembling it into an inaccessible position in complex equipment. Terminal board switches can be supplied in either paper base or glass base epoxy. They incorporate solid silver alloy rotors of knee-action type. • **Daven Co.,** 530 W. Mt. Pleasant Ave., Livingston, N. J.

▲ For more details circle NED-659 D1 on enclosed inquiry slip ▲

FIREWALL CONNECTORS
capable of withstanding 2000° F



Nominal 50-ohm characteristic impedance is rating of 6342 Series HN firewall connectors which will withstand 2000° F environments. It is one of over 2000 types of standard connectors available. Special units can be ordered. • **Gremar Mfg. Co.,** 9 N. Wakefield Ave., Wakefield, Mass.

▲ For more details circle NED-660 D1 on enclosed inquiry slip ▲

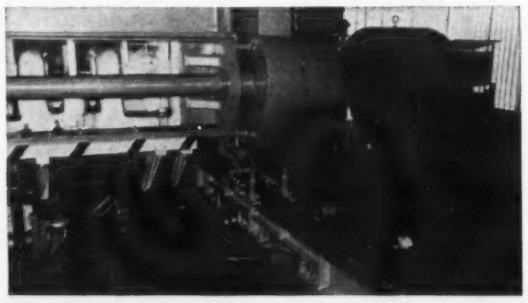
12-IN. CUTOFF MACHINE
improved model for 1½-in. solid bar

Retractable size gage and provision for mist cooling through a hollow arbor are additions to the Delta 12-in. "swinging arbor" cutoff machine. It handles 1½-in. diameter solid round bar steel, double the capacity of the previously offered machine. It also cuts 2-in. thick by 8-in. wide wood and plastic, 3¼-in. diameter nonferrous tubing and round bar, 3¼-in. diameter ferrous tubing, 3 x 3-in. angles, and 4-in. channels. "Slinging" action provides mist lubrication down both sides of the blade to the work without using compressed air. With an abrasive wheel, the machine can cut to a tolerance of less than 0.005 in. A 3 or 5-hp motor revolves the blade at over 12,500 fpm. The splashproof wheel guard lifts for front loading of long pieces. • **Rockwell Mfg. Co.,** Delta Power Tool Div., 486 N. Lexington Ave., Pittsburgh 8, Pa.

▲ For more details circle NED-661 D1 on enclosed inquiry slip ▲

POSITION CONTROL SYSTEM
accurate to 1/32 in. in 150 ft

Automatic positioning and programming system positions and controls machine tools over work up to 150 ft long and weighing 6 tons with an accuracy to 1/32



in. Positioning speed is up to 150 fpm. Standard units are programmed by punched cards, with a single card handling up to 60 selected positions and from 1 to 20 operations or processes at each position. Punched tape, magnetic tape, or computers can be fitted to the system to meet individual programming specifications. Controlled by electrohydraulic servo valve, system eliminates backlash. It is comprised of standard, easily replaced components adaptable to individual needs. • **Sanders Associates, Inc.,** 95 Canal St., Nashua, N. H.

▲ For more details circle NED-662 D1 on enclosed inquiry slip ▲

PRECISION BALLS

Manufactured to closer tolerances, finer surface finishes (less than .5 micro inch). Diameter tolerance ± .000005". Sphericity accurate to .000005"

MATERIALS UNLIMITED

High temperature alloys able to withstand temperatures over 1500°F. or severe corrosive conditions. Other materials include Chrome Alloy Steel, Stainless Steel, K-Monel, Aluminum, Naval Brass, Aluminum Bronze, Carbon Steel, Glass, Plastics, and many Special Materials.

Write on your Company Letterhead for new complete catalog. Nationwide representation.

Specify Hartford PRECISION BALLS • BEARINGS

HARTFORD STEEL BALL CO., 83 Jefferson Ave., • West Hartford, Conn.

▲ For more details circle NED-663 D1 on enclosed inquiry slip ▲

WON'T WARP, WEAR OR CORRODE

NEW Rubber-Armored, Rubber-Hinged CLARK DURADOR

Self-closing DURADOR takes all the punishment your fork truck jockeys can dish out. Permanently-bonded rubber coating prevents gouging, splintering.

Full-length flexible rubber hinges prevent misaligning — return DURADOR to closed position every time. Combines the best of a rigid door with a rubber curtain. Never needs maintenance. Applies easily at any doorway. Comes in all standard industrial doorway sizes.

Isn't this the door you've been wanting? Write today for details.

CLARK DOOR COMPANY, INC. (since 1878)
511 Hunterdon St., Newark 8, N. J.

▲ For more details circle NED-664 D1 on enclosed inquiry slip ▲

Arno® TAPES
protection by the roll

- Protect machined surfaces in handling — reduce rejects
- Save finishes and plating
- Self-adhesive — easy to apply
- Remove easily, cleanly
- Types for every purpose — waterproof, non-staining, printable, high strength, high temperature.

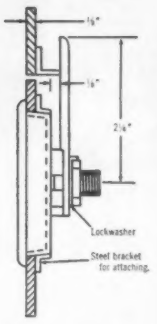
Write for FREE test sample

ARNO ADHESIVE TAPES, INC. 5218 Ohio St., Michigan City, Ind. Dr. Scholl's Adhesive Tape Division

MANUFACTURERS AGENTS WANTED FOR SOME SELECTED AREAS

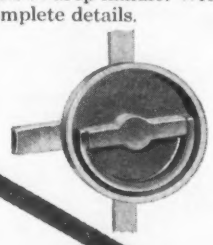
▲ For more details circle NED-665 D1 on enclosed inquiry slip ▲

CORBIN
2 and 3 Point FLUSH CATCHES



Designed for a lifetime of smooth performance. Flush mounted. Drop handles and cups of solid bronze. Standard finishes US9 and US26. Reversible—for right- or left-hand doors. Top and bottom bolts are cam operated by ¼ turn of drop handle. Write for complete details.

Single Point Locking Or Used With Rods



Ideal for Lockers, Cabinets, Buses and Trucks, Electrical Equipment, Machinery, etc.

CORBIN CABINET LOCK DIVISION
THE AMERICAN HARDWARE CORPORATION
NEW BRITAIN, CONNECTICUT

For more details circle NED-666 D1 on enclosed inquiry slip

IT'S A FACT!

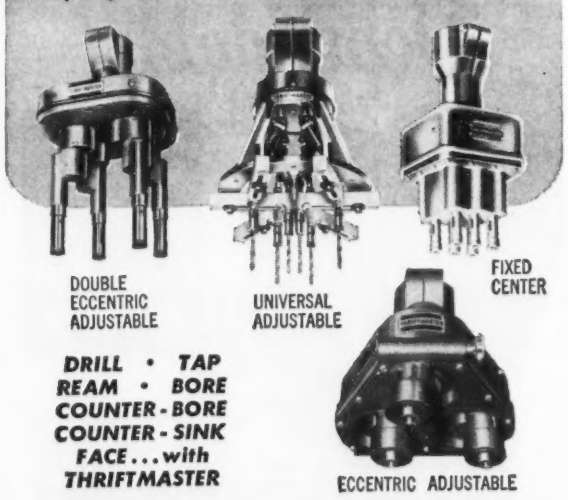
DRILLHEADS
ARE OBVIOUS.

...Tremendous economies from the use of multiple-spindle drillheads are obvious. Drilling one hole at a time cannot be tolerated in this day of automation!

THOMSON
THRIFTMASTER DRILLHEADS
... are your best Drillhead buy...

1. They are better built and cost no more (Full ball bearing construction, hardened gears, spindles and driver, and precision grinding!)
2. This means they last longer
3. This eliminates down time
4. This eliminates production losses
5. This drastically reduces drilling costs

THOMSON
THRIFTMASTER DRILLHEADS
... are designed and produced by engineers whose experience **in this specific field** dates back to 1923. This long accumulation of engineering technique and production "know-how" is reflected in our product—**a quality tool... solid, substantial and dependable!**



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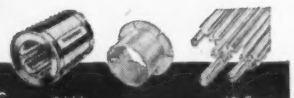
REAM • BORE
COUNTER-BORE
COUNTER-SINK
FACE... with THRIFTMASTER

Ask NOW for our new catalog!

THRIFTMASTER PRODUCTS CORPORATION
1028 NORTH PLUM STREET
LANCASTER, PENNSYLVANIA
Phone EXpress 2-2101

Also Makers of DORMAN TAPPERS

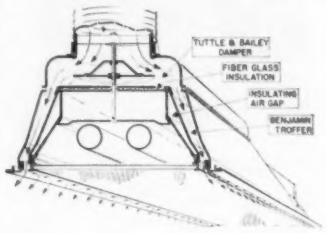


Subsidiary of THOMSON INDUSTRIES, INC. makers of BALL BUSHINGS NYLINERS 60 Case Shafting

For more details circle NED-667 D1 on enclosed inquiry slip

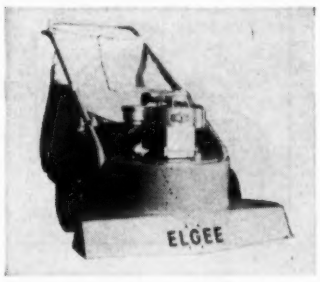
LIGHT FIXTURE-VENTILATOR
provides light and cool or warm air

Single 1 x 4-ft or 2 x 4-ft triple-shell Lumi-Flow lighting-ventilating troffer handles from 0 to 200 cfm of cool air or warm air. Usable in any old or new building with any type of drop ceiling, the concealed ceiling fixture incorporates fluorescent lighting units in its 4⅞-in. depth. The air passageway is isolated from the troffer housing by Fiberglas insulation and an insulating air gap. Diffusing dampers minimize sound levels and avoid pressure build-ups. The snap-in damper assembly and a side-mount hanger simplify installation. • **Thomas Industries, Inc.**, Benjamin Div., 207 E. Broadway, Louisville 2, Ky.



For more details circle NED-668 D1 on enclosed inquiry slip

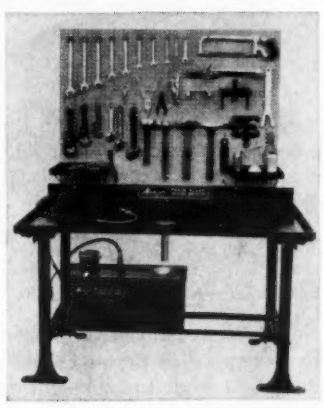
POWER VACUUM-SWEEPER
cleans areas at 30,000 sq ft/hr



Dust, dirt, clippings, shop litter, shavings, cards, tags, glass, cigarette butts, bottles and caps, and other such litter is readily picked up with this Model 500 Power-Vac. Driven by a 3-hp air-cooled gasoline engine, it has a 7.7-cu ft filter bag and a 30 to 36-in. sweeping width which makes it possible to clean up to 30,000 sq ft per hour. It is easily maneuvered forward or back in indoor or outdoor areas, and cleaning action is entirely by suction. • **Elgee Mfg. Co.**, 18 Ellers Dr., Chatham, N. J.

For more details circle NED-669 D1 on enclosed inquiry slip

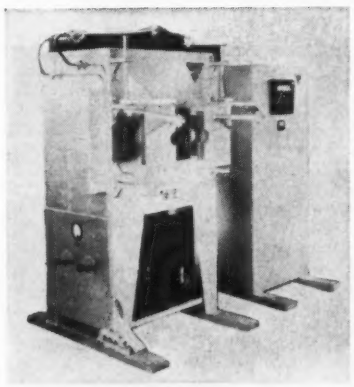
WORK BENCH
has raised edge and center drain



Small and large assemblies can be cleaned or serviced on the Drain-Kleen work bench. It has a 54 x 30-in. heavy-gage steel top with a raised edge and a gradual taper to a center drain to prevent oil from dripping on the floor. Pump - powered Power-Flush cleaning unit which forces a neutral solvent through a flush hose is optional. Solvent drains back to the unit for reuse. Also optional is a tool board which keeps tools handy for use. • **Manzel**, Dept. WBB, 315 Babcock St., Buffalo 10, N. Y.

For more details circle NED-670 D1 on enclosed inquiry slip

HEAT TREATING FURNACES
operate at up to 2500° F



Continuous operation at up to 2500° F, with higher temperatures on short runs, is possible with SM-AD Series general-purpose heat treating furnaces. The rapid-heating, quick-recovery units are available in a range of sizes with a choice of controls. Features include foot-controlled, air-operated, side-hinged doors to facilitate loading and a gas-tight reinforced steel case. Silicon carbide heating elements are positioned over and under the chamber for uniform heat transfer. Furnace is supplied with tap transformer, fine and coarse switches, current input ammeter and contactor; or with saturable reactor controls and magnetic amplifier. Pictured Model SM-1200-AD has 10 x 12 x 10-in. chamber and draws 12.5 kw current. • **Pereny Equipment Co.**, 893 Chambers Rd., Columbus 12, Ohio.

For more details circle NED-671 D1 on enclosed inquiry slip

Model SN

Tension steel strapping quickly, accurately, easily with the right Signode portable air power tool

A Signode air power tensioning tool tightens steel strapping to the pre-set tension every time. There's a model that's just right for your needs. Every Signode tool is ruggedly built, easy and safe to use.

Model	For Strap Widths	Strap Tension at 90 PSI Air Pressure	Weight of Tool
SN	⅜", ½", ⅝"	750 lbs.	4½ lbs.
SPN	⅜", ½", ⅝"	750 lbs.	4¼ lbs
N-1-34	¾" Waxed	1600 lbs.	7¾ lbs.
PN-114	¾", 1¼" Waxed	1600 lbs.	9 lbs.
FN-114	1¼" Waxed	3000 lbs.	19¼ lbs.
WN-114	¾", 1¼"	3300 lbs.	18¾ lbs.

10 ft. air hose and quick disconnect fittings furnished with each tensioner

Send for your free copy of booklet SPD 216, "Signode Air Power Tensioners and Sealers."

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue - Chicago 47, Illinois
Offices Coast to Coast
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co. Ltd., Montreal • Toronto

For more details circle NED-672 D1 on enclosed inquiry slip

Model RCNS 3435 pistol-grip, air power sealer

New Signode air power sealer reduces strapping time

This new Signode Model RCNS pneumatic sealer features a pistol grip that makes it easy and convenient to seal ¾-inch steel strapping with one hand. It weighs only six pounds. The operator simply sets the tool on the seal and pulls the trigger. Compressed air does the hard work—crimps every seal correctly, positively, quickly.

The RCNS sealer is available on an annual rental or single payment basis, as are other Signode heavy-duty steel strapping tools. Let us arrange a demonstration on your premises at your convenience. Just write or call without obligation.

Send for new Booklet SPD 216 that describes the Signode line of air power tensioners and sealers and shows typical money-saving applications.

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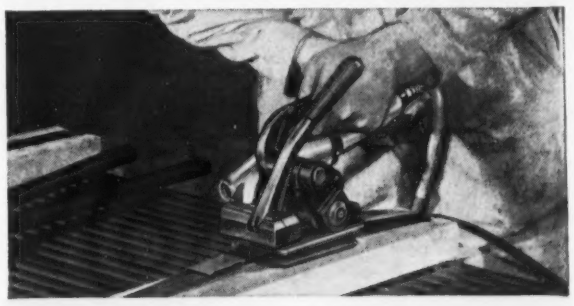


Signode heavy-duty tensioner saves a foot or more of strap every time it's used

The air-powered feed wheel FN-114 takes 1¼-inch strapping directly from the dispenser. No waste strap.

- Can save a foot or more of strap every time it's used
- Easier and faster to load than a windlass type tool
- Unlimited takeup... pulls pre-set tension every time
- Plenty of power... up to 3000 lb. tension.

Send for free illustrated folder, "Air Power Tensioners and Sealers."

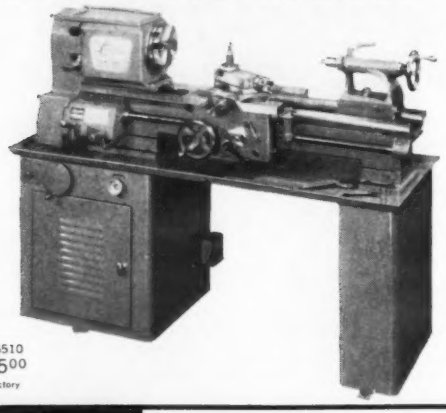
SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue - Chicago 47, Illinois
Offices Coast to Coast
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co. Ltd., Montreal • Toronto

For more details circle NED-674 D1 on enclosed inquiry slip

NEW!

Logan — 14" LATHES BEST DOLLAR VALUE IN THE LATHE FIELD

DEPENDABLE . . . ACCURATE . . . RUGGED . . . Large lathe capacity features a 14⅝" swing over bed, a 9" swing over saddle cross slide, and a 28" center distance. Ball bearing spindle has: 1⅜" hole, 1 1/16" draw in collet capacity, and variable speed drive (40 to 1400 RPM)—no shifting belts! There are two precision ground V-ways and flat ways.



Model 6510
$1,775.00
F.O.B. Factory

Logan — LOGAN ENGINEERING CO., DEPT. Q-461
4901 W. Lawrence Ave., Chicago 30, Ill.

For more details circle NED-675 D1 on enclosed inquiry slip

...and end your Paint Removal Problems! TIME PROVEN!

EPOXYSTRIP FASTEST WORKING LONGEST LASTING

- EPOXYSTRIP WILL NOT HARM SOFT METALS
- ECONOMICAL—MORE JOBS PER GALLON AT LOWER COST
- NO SCRUBBING OR MANUAL ASSISTANCE
- RECOMMENDED BY LEADING FINISH MANUFACTURERS

NON-CORROSIVE—a new more powerful paint stripper guaranteed to outstrip all others! No organic finishes have yet resisted this amazing paint stripper. It was especially formulated to remove epoxies and acrylics... with the same ease that it removes tough synthetics. Our 14th year of solving "tough" stripping problems.

JOBBERS: Beck EPOXYSTRIP sells on demonstration. Try it and see for yourself.

WRITE FOR FREE FOLDER

BECK EQUIPMENT & CHEMICAL CO.
3350 WEST 137th STREET — CLEVELAND 11, OHIO

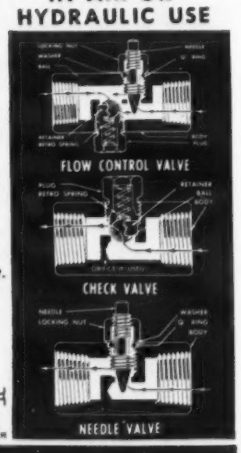
For more details circle NED-676 D1 on enclosed inquiry slip

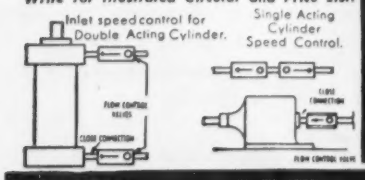
Get Easier, More Accurate Cylinder Speed Control with Pneu-Trol® VALVES IN AIR OR HYDRAULIC USE

2,000 (brass or aluminum) and 5,000 (steel) p.s.i.

Pneu-Trol Valves combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Retro ball floats in most sensitive position to seat, requiring only a slight differential pressure to fully open or close it. Check Valve and Needle Valve incorporate single function features of Flow Control Valve. All valves available in 5 female pipe sizes — ⅛" to ¾". Valve bodies are made from brass, aluminum, steel or stainless steel. Attractive Prices — Immediate Delivery.

Write for Illustrated Circular and Price List.

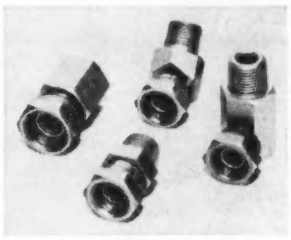




AUTOMATION AUTO-PONENTS INC COMPONENTS — 2929 GRANT STREET BELLWOOD (Chicago Suburb) ILLINOIS

For more details circle NED-677 D1 on enclosed inquiry slip

SWIVEL PIPE UNIONS for up to 1-in. hydraulic lines



Pipe or hose can be connected to hydraulic components with these swivel unions without turning or twisting. A captive nut, swiveling on the fitting, is turned to draw the pipe or hose end against the chamfered seat to effect a pressure-tight seal. Made of brazed steel, they are offered in four common straight and angle types in pipe sizes to 1 in. • **L & L Mfg. Co.**, 21590 Hoover Rd., Warren, Mich.

For more details circle NED-678 D1 on enclosed inquiry slip

GRAPHITE PIPE JOINT assembly is stronger than pipe

This Lockring Assembly for joining armored impervious graphite pipe without adhesive or threading employs a serrated locking ring and two matching flanges. Joining is accomplished by placing the Lockrings on the pipe, then drawing the matching flanges over the rings with flange bolts. Special tools are not needed, and joint is stronger than the pipe itself. Seamless extruded Impervite pipe is externally protected with heavy glass armor from almost all corrosives. It is immune to thermal shock, noncontaminating, resists high level of physical shock and withstands hydrostatic pressures to 75 psi at temperatures to 340° F. • **Falls Industries, Inc.**, Aurora Road, Solon, Ohio.

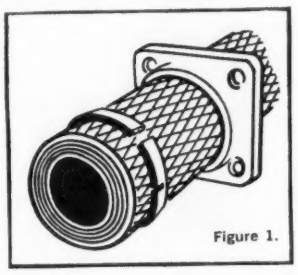
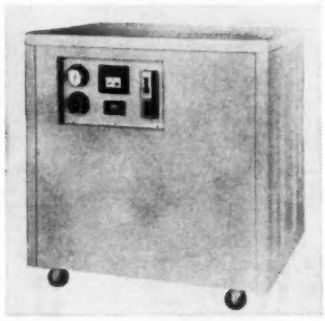


Figure 1.

For more details circle NED-679 D1 on enclosed inquiry slip

PORTABLE WATER CHILLER easily moved from job to job



Self-contained, caster-mounted Multitem water chiller is easily wheeled from one process job to another. It merely needs plugging into electric outlet and connection of water pump and water storage tank to the process system. Chilling components and all piping are insulated to prevent condensation, and refrigerant is nontoxic. Units are made in water cooled or air cooled models. Safety controls include a high pressure cut-out on compressor motor, a motor circuit breaker, overload relay and low pressurestat, and a thermostat to protect the unit from freezing. Centrifugal pumps and enclosed motor are removable without disturbing piping. • **Application Engineering Corp.**, 3811 Podlin Dr., Franklin Park, Ill.

For more details circle NED-680 D1 on enclosed inquiry slip

AIR-OPERATED PRESS has 2½-ton capacity

Loading, inspection, and unloading of work from the Acraplate C-frame press is speeded because its top platen tilts up as it opens, giving 10½ in. of clearance at the front and 5 in. at the back. Linkage returns the top platen to horizontal for the pressing stroke. Press operates on 85-psi air and exerts 2½-ton pressure on the 36-in. wide by 28-in. deep platens. It can be supplied with electrically heated platens or with drilled platens for steam heating or cooling. Applications include preheating or chilling operations and low pressure laminating. • **Lake Erie Machinery Corp.**, Woodward Avenue, Buffalo 17, N. Y.

For more details circle NED-681 D1 on enclosed inquiry slip

LET ROLL-A-REEL ROLL THE LOAD

Load cable, wire, rope or anything on reels onto Roll-A-Reel for easy, smooth pay-out or take-up.

- Easily portable
- No jacks
- Handle any reel diameter
- Heavy steel frame
- Slanted front
- Ball-bearing, adjustable rollers
- Positive roller lock for unloading

All are drilled for optional auxiliary ball-bearing side rollers, $5.00 per set extra.

STYLE A
2,000 lbs. cap. for reels up to 28" wide. Weight 60#.
PRICE $46.50
f.o.b. Cincinnati

STYLE B
4,000 lbs. cap. for 1 reel up to 48" wide; or for 2 reels up to 24" wide each. Weight 110#.
PRICE $84.50
f.o.b. Cincinnati

• Special sizes on request.

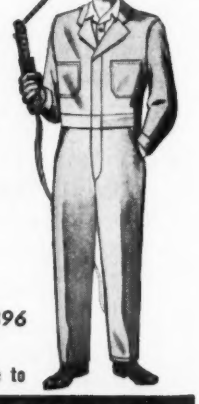
ROLL-A-REEL — 4626 Reading Road Cincinnati 29, Ohio

For more details circle NED-682 D1 on enclosed inquiry slip

CHEM-WEAR® Permanently FLAMEPROOFED Work Clothes Protect from Fire Hazards

CHEM-WEAR Flameproofed work clothes protect workers from the hazards of welding, test cell work, light metal splashes.

Look to CHEM-WEAR, your best source for all types of acid-resistant clothes and a complete line of cotton work clothes.



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Quality Since 1896

Available from Your Safety Dealer or Write to

M. SETLOW & SON, Inc.
PLANTS: ORANGE, CONN. & PROSPERITY, S.C.
Mailing Address: P.O. BOX 1784, NEW HAVEN, CONN.

For more details circle NED-683 D1 on enclosed inquiry slip

Dependable!

Sutton MOTOR DRIVEN PRESSURE BLOWER

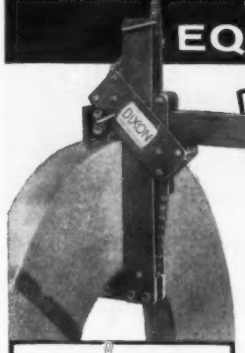
- For exhausting dust, smoke, fumes, vapor...conveying fibers, shavings...cooling, drying, forge blasting.
- One piece housing...self-cleaning wheel...strong lightweight cast aluminum.
- Even, non-pulsating air flow...straight wall design cuts windage—ups efficiency.
- Set direction of discharge in any of 8 positions.
- 100-800 cu. ft. at ½" to 6" static pressure.
- 3450 r.p.m. direct connected 60-cycle motor...3 sizes: ¼, ½, 1 H.P.

WRITE FOR LITERATURE AND PRICES

Sutton Manufacturing Corp.
112 W. WILSON AVENUE NORFOLK, VIRGINIA

For more details circle NED-684 D1 on enclosed inquiry slip

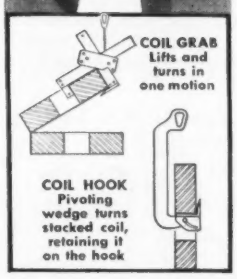
DIXON Coil-Handling EQUIPMENT



LIFT, TURN AND LOAD COILS IN ONE EASY MOTION

DIXON GRABS have become the standard because of their secure grip and positive pickup features. All models available from stock. Capacity up to 2000 lbs. Here are a few of the important features:

1. One-man operation, pallet to stock reel.
2. Positive grip without damage to coils.
3. Clamp on all four sides of the coil.
4. Provide for rapid handling with safety.



DIXON HOOKS are especially popular for use where coils are stacked with separating spacers or where the overhead clearance is limited.

Write for our NEW 4-page Coil-Handling Bulletin, CH-B1.

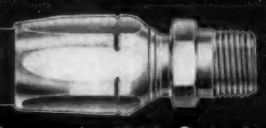
DIXON **DIXON AUTOMATIC TOOL, Inc.**
2302-23rd AVENUE — ROCKFORD, ILLINOIS

ASSEMBLY EQUIPMENT • COIL GRABS AND HOOKS

For more details circle NED-685 D1 on enclosed inquiry slip

PRESSURE PROBLEMS?

AEROQUIP 1508



Solve them with Aeroquip 1508 Spiral Wire Wrap Hose and Reusable Fittings

Handles up to 5000 PSI

at temperature ranges from −40°F. to +200°F.

Aeroquip 1508 Spiral Wire Wrap Hose solves pressure problems. Engineered construction with spiral wrapping meets increased pressure requirements in a broad range of hydraulic applications. Aeroquip Spiral Wire Wrap Hose and Reusable Fittings are particularly recommended for systems subject to high surge peaks. They provide long service life under the most severe operating conditions.

A fluid line specialist, your Aeroquip Distributor will give you a copy of Industrial Catalog No. 205 detailing the Aeroquip Spiral Wire Wrap Hose and Reusable Fittings best suited for your individual pressure problems. His telephone number is in the "Yellow Pages" under "Hose."

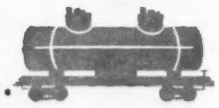
Aeroquip
AEROQUIP CORPORATION • JACKSON, MICHIGAN
Industrial Division, Van Wert, Ohio • Western Division, Burbank, California
Aeroquip (Canada) Ltd., Toronto 19, Ontario
Aeroquip products are fully protected by patents in U. S. A. and abroad

For more details circle NED-686 D1 on enclosed inquiry slip

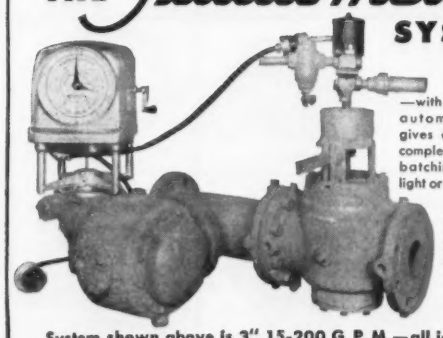
Whether Your Liquid Measuring Problem Involves Gallons . . . .

or Barrels

or Tank Cars . . . .



THE *Fluidometer* SYSTEM



—with its exclusive automatic reset, gives accurate and completely automatic batching of either light or heavy liquids.

Available in either jacketed or unjacketed construction.

System shown above is 3" 15-200 G. P. M.—all jacketed.

HETHERINGTON & BERNER INC.
A Wholly Owned Subsidiary of American Hoist & Derrick Co.
701 Kentucky Avenue • Indianapolis 7, Indiana
Write for Bulletin FI-56

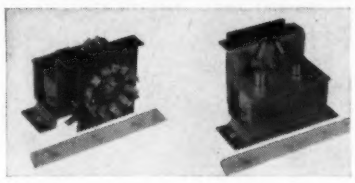
For more details circle NED-687 D1 on enclosed inquiry slip

ULTRASONIC TESTER
for metallic, nonmetallic objects

Facilities for high sensitivity, high resolution contact testing, and variable pulse repetition rate are built into the Model 424-D Immerscope ultrasonic testing instrument. It is used for nondestructive ultrasonic testing of plates, ingots, pipe, tubing, forgings, castings, welds and other bonds, rolled shapes, honeycombs, and extrusions. Such reasonably-elastic nonmetallic materials as glass, hard rubber, and ceramics can be tested. A high speed alarm circuit is automatically actuated when flaws are detected. Also built in are output circuits for direct connection to Curtiss-Wright electrosensitive recorders and a video delay circuit. • **Curtiss-Wright Corp.**, Princeton Div., Box 110, Princeton, N. J.

For more details circle NED-688 D1 on enclosed inquiry slip

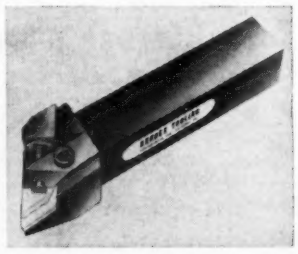
SEQUENCE RELAY
is bidirectional, 12-position unit



Suited for remote control of electronic equipment, lighting circuits, and appliances, Series 4175 bidirectional 12-position sequence relay has a minimum operating speed of 40 milliseconds. Contacts are rated up to 1 amp at 24 v ac. It has a separate 117-v 5-amp switch at zero position and adjustable stops to vary switching from 1 to 12 positions. • **Lionel Corp.**, Electronics Div., Hoffman Place, Hillside, N. J.

For more details circle NED-689 D1 on enclosed inquiry slip

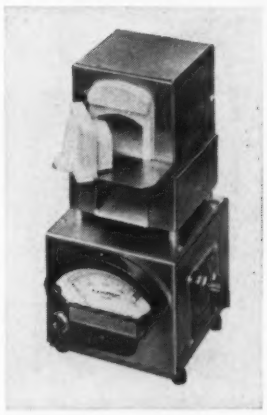
PROFILING TOOL
has double-locked carbide insert



Carbide insert of this Kendex profiling tool is locked against two walls of the tool recess by an eccentric or cam pin through a center hole, and in its seat by a top clamp held by a socket cap screw. Insert cannot be pulled out while back facing or contouring. Dial-adjusted chip breaker is raised by a spring plunger upon release of clamp to simplify changing or indexing of the insert. Diamond-shaped inserts have a 55-degree nose angle and are set in the holder at a 5-degree negative side and back rake to provide four cutting points. Three styles of holders meet most requirements. • **Kennametal Inc.**, Lloyd Avenue, Latrobe, Pa.

For more details circle NED-690 D1 on enclosed inquiry slip

MULTIPURPOSE FURNACE
has 500 to 2000° F range



Stainless steel housing of the Model UL3LF multipurpose laboratory furnace is lined with high temperature insulation and is constructed as an integral unit for easy removal from the base. The 1¾ x 1¼ x 2¼-in. work chamber with a dense porcelain charging tray is heated by coiled alloy wire elements, supported by a cast refractory muffle shell. Temperature ranges from 500 to 2000° F with 690 w of power. Furnace has a tight closing, refractory core, plug type door and a stainless steel preheat chamber. The stainless steel, louver ventilated base provides the operating panel for instrumentation. An automatic Infitrol with graduated dial and knob for temperature setting has an operating pilot light. Operation is on 115 v ac. • **K. H. Huppert Co.**, 6830 Cottage Grove Ave., Chicago 37, Ill.

For more details circle NED-691 D1 on enclosed inquiry slip

NEW SMALL MAGNETIC STARTER

Costs Less, Saves Space on Low-Horsepower Jobs!

SQUARE D **NEMA SIZE 00 STARTER** RATED ¾ TO 2 HP FOR 3-PHASE SERVICE

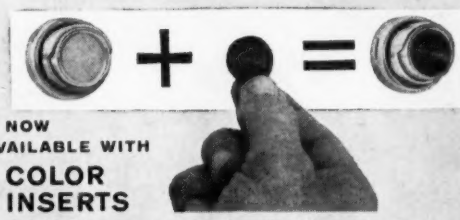
CLASS 8536

GET THE COMPLETE STORY!
Write for Bulletin SM-297. Square D Company, 4041 North Richards Street, Milwaukee 12, Wis.

SQUARE D COMPANY
wherever electricity is distributed and controlled

For more details circle NED-692 D1 on enclosed inquiry slip

SQUARE D's ALL-METAL Push Buttons GIVE EXTRA DURABILITY!



NOW AVAILABLE WITH **COLOR INSERTS**

—with these Important Advantages:

- Indestructible all-metal operator
- Permanently colored high-density polyethylene inserts
- Easy-to-use inserts can be changed in seconds
- 7 colors available—black, red, green, brown, yellow, orange, blue
- New "universal" package contains basic operator, and 7 inserts at no extra cost

Write for Bulletin 9001-T. Square D Company, Dept. SA, 4041 North Richards Street, Milwaukee 12, Wis.

SQUARE D COMPANY
wherever electricity is distributed and controlled

For more details circle NED-693 D1 on enclosed inquiry slip

feature for feature...
THIS NEW SQUARE D VOLTAGE TESTER *Tops them ALL!*

for further details, write Square D Company, 1601 Mercer Road, Lexington, Kentucky

SQUARE D COMPANY
wherever electricity is distributed and controlled

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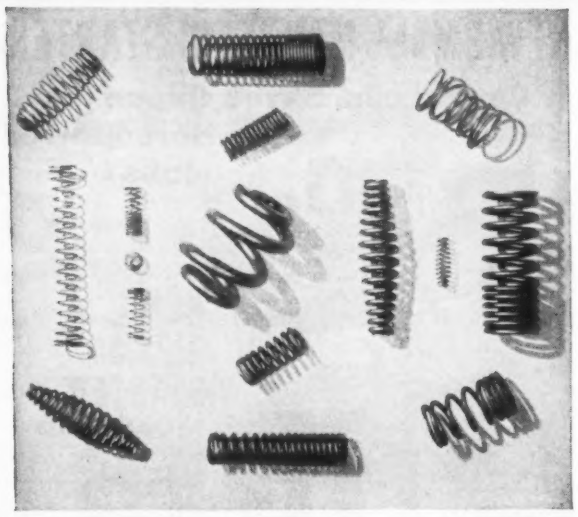

Compression Springs

Before your designs are frozen, check with our engineers for possible savings. Proper material selection is important. Unnecessarily close tolerances add to cost. Send for pamphlet "Spring Design and Selection—in brief."

Associated Spring Corporation
General Offices
Bristol, Connecticut

9819

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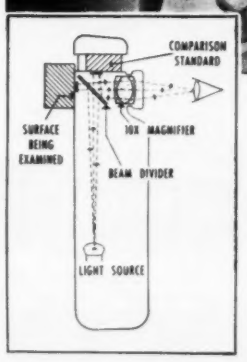

NEVER A DOUBT when you inspect with a BAUSCH & LOMB SURFACE COMPARATOR

You can make an easy, accurate check of any surface finish with the Bausch & Lomb Surface Comparator. A 10x Hastings Triplet lens gives excellent magnification and the built-in light emphasizes irregularities of both standard and work piece to the same degree. Construction and design are typically Bausch & Lomb . . . finest optical lens, mounted in a die-cast housing, provides years and years of faithful service. Inspectors, machinists or any of your quality control people can use it right in the shop. The 10x Surface Comparator is priced at only $30.00.

BAUSCH & LOMB

Send in this coupon and receive a file folder describing the entire line of Bausch & Lomb readers and magnifiers. Address your request to BAUSCH & LOMB, 994 LOMB PARK, ROCHESTER 2, NEW YORK.

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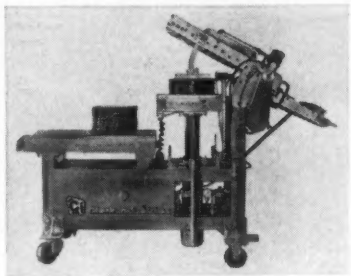
For more details circle NED-696 D1 on enclosed inquiry slip

FLAT BLANK FEEDER
automatically feeds varied shapes



Feed of this high speed automatic stack - top feeding machine is coordinated electrically with the inclined or vertical press, shear, brake, or other machine with which it is used. It handles rectangular, round, square, notched, perforated, or irregular blanks. A one-at-a-time magnetic pick-up, powered magnetic rolls, and magnetic belt transfer the flat blank to the operating machine under stepless variable speed control. A powered roller section receives 18-in. high stacks of blanks from a conveyor, lift truck, or crane. Blanks from 10-in. diameter to 30 in. square and 0.015 to 0.125 in. thick, are accommodated at speeds up to 100 per minute. Double feed protection is built into the feeder which is mounted on casters for shifting from machine to machine. • **Clark Industries**, Box 314, Delaware, Ohio.

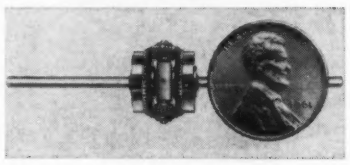
For more details circle NED-697 D1 on enclosed inquiry slip

DOCK BOARD
6 x 6 and 6 x 8-ft deck sizes

No attendant is required during positioning of the self-contained Retract-O-Matic dock board, designed to handle any truck, trailer, or load. When ready to service the truck, operator unlocks the dock board, allowing the deck to rise to uppermost position, 14 in. above dock level. Lip is extended up to 24 in. to the correct length for the truck. Deck then floats down and lip rests on truck bed. Deck automatically rises and lowers with truck bed during loading and unloading. The 24 in. high dock board has a ½-in. thick nonskid main deck and heavy side curtains. Deck sizes of 6 x 6 and 6 x 8 ft are available. • **Hartman Metal Fabricators, Inc.**, 123 Main St., Waterloo, N. Y.

For more details circle NED-698 D1 on enclosed inquiry slip

SUBMINIATURE DIFFERENTIALS
for computers, control instruments



Extreme miniaturization is possible in computer assemblies and control instruments by using this line of subminiature precision differentials. Made of stainless steel, they have six miniature bearings which conform to ABEC-7 requirements, perfect balance, break-away torque of 0.02 oz-in., and backlash of 8 min or less. They have 0.0779 or 0.0935-in. diameter shafts with over-all lengths to 3 in. Clearance circle is ½ in. • **Instru-Lec Corp.**, 520 Homestead Ave., Mount Vernon, N. Y.

For more details circle NED-699 D1 on enclosed inquiry slip

DRUM LIFTER-TILTER
for steel and fiber drums

Standard Roto-Tilt unit is used with fork trucks, chain falls, cranes, and hoists to lift, tilt, pour, and dump steel and fiber drums of 15, 30, and 55-gal sizes. Barrels and carboys can also be handled. Finished in safety orange, it weighs from 47 to 80 lb and has a capacity of 1000 lb. Models with 130 and 160-degree turning are actuated by a safety crank handle. A locking bracket holds the drum in position. Companion Hi-Lift Roto-Tilt unit has the same capacity for handling similar containers, and is used with the same equipment. It is designed for overhead operation and is controlled at floor level by means of a double chain. Operating distance from the floor is limited only by the length of chain. Weight is 80 lb. • **Pucel Enterprises, Inc.**, 3746 Kelley Ave., Cleveland 14, Ohio.

For more details circle NED-700 D1 on enclosed inquiry slip

P&B Plug-In Relay Has Built-In Lamp . . . Long Life, Switches 10 Amperes

Eliminates need for costly pilot lights. Lamp lights when relay coil is energized. Operates on 1.2 watts DC or 2 volt-amps AC . . . relay's compact design, reliability and switching capabilities make it ideal for automation and communication applications.

ENGINEERING DATA

CONTACTS
- material: 3/16" dia. silver cadmium
- rating: 10 amps at 115 volts AC 60 cycle, non-inductive
- arrangements: up to 3PDT
- Lamp: AC 6 to 230 volts DC 6 to 110 volts

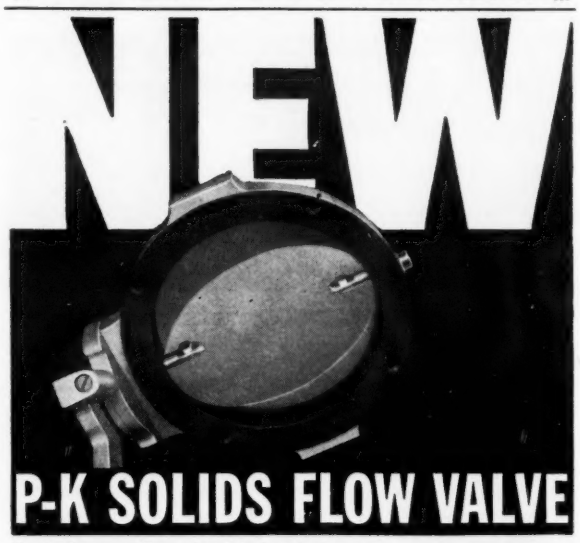
COIL
- voltage: DC 6 to 110 AC 6 to 230
- power: 1.2 watts DC 2 volt-amps AC
- resistance: 16,500 ohms max.

Enclosure: clear cellulose acetate dust cover with 8 or 11-pin plug-in header.
Dimensions: 2" high x 1 13/32" square

KRP-N (DPDT) RELAYS ARE STOCKED BY LEADING ELECTRONIC PARTS DISTRIBUTORS

POTTER & BRUMFIELD
DIVISION OF AMERICAN MACHINE & FOUNDRY COMPANY, PRINCETON, IND.

For more details circle NED-701 D1 on enclosed inquiry slip



P-K SOLIDS FLOW VALVE

Used wherever flow of solids has to be controlled. For hoppers, tote bins, blenders, etc. Neoprene lined, stainless steel disc and stems. Priced as low as $96.00.

FREE BULLETIN NO. 16-P

Contains information on sizes and accessories and all P-K Processing Equipment.

Patterson Kelley
Chemical and Process Equipment Division, East Stroudsburg, Pa.

For more details circle NED-702 D1 on enclosed inquiry slip

Available in Stainless Steel, Brass, Aluminum and Steel

JACOBSON NUT MFG. CORP. Kenilworth, New Jersey

For more details circle NED-703 D1 on enclosed inquiry slip

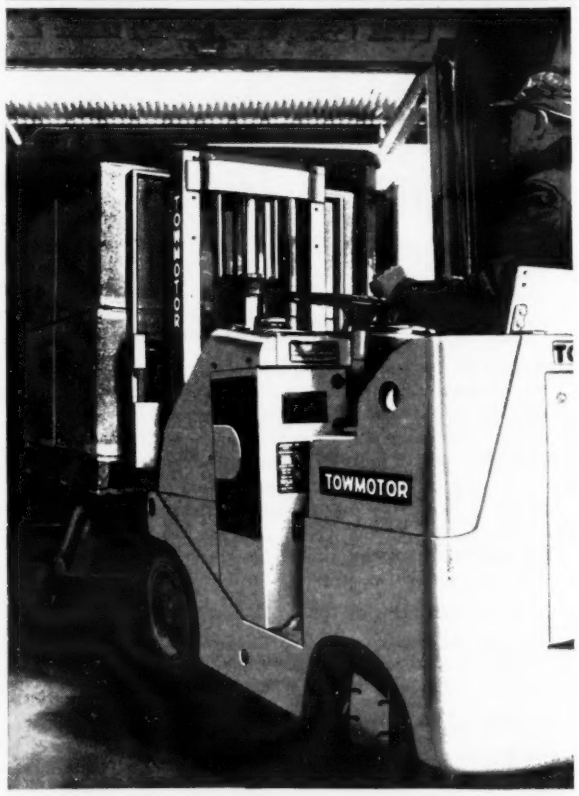
NEW ROTOR Airiter

gives world's fastest, easiest marking

There's nothing like the new Rotor *Airiter!* It marks anything ... metal, plastic, glass, ceramic ... parts or tools ... as easy and fast as writing with a pen. No messy chemicals; no risky heat. Short-stroke carbide stylus makes up to 12,000 blows per minute. Speed and depth of mark easily controlled by throttle *on tool.* Will not stall while writing. Peening action ... does not remove metal. Weighs only 5¼ ounces. Try it in your shop and see how it writes circles around other methods! Write for Bulletin AR-2. *The Rotor Tool Company, 26330 Lakeland Boulevard, Cleveland 32, Ohio. Subsidiary of The Cooper-Bessemer Corporation.*

ROTOR TOOLS

For more details circle NED-704 D1 on enclosed inquiry slip

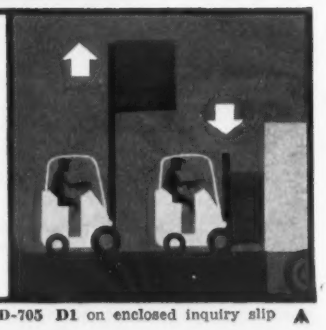


TOWMOTOR'S ON THE MOVE

—broadening industry's concept of low cost material handling. Advancing the modern "compact" idea with small but mighty lift trucks that move around fast—pick up tonloads—stack high in warehouse—duck low into trailers—do many jobs instead of a few. Keep on the move with Towmotor fork lift trucks—made only by TOWMOTOR CORPORATION, CLEVELAND 12, OHIO.

TOWMOTOR
THE ONE MAN GANG ®

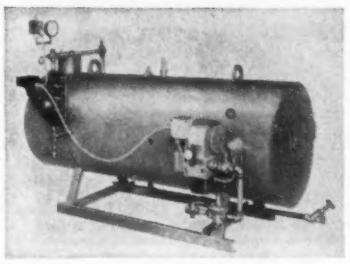
Raising unit loads 12' high one minute, then driving into low-clearance vans the next, is one of the unique features of new Towmotor "Van-Stack" Series fork lift trucks (above). These 32" wide "compacts" zip through 3-foot aisles, maneuver sharp corners, hustle big jobs with unusual economy.



For more details circle NED-705 D1 on enclosed inquiry slip

SIDE-FIRED BOILERS

6, 12, 15, 20, and 30-hp models



Gas, oil, and combination gas-oil fired models are available in this line of compact economy boilers. Their side-fired design is said to reduce floor space more than 20 per cent over comparable end-fired models. The 6, 12, 15, 20, and 30-hp units have outputs from 201,000 to 1,005,000 Btu per hour at 100 or 125-psi standard. Pressures to 500 psi are available. The x-rayed, stress-relieved, ASME Code boiler shell is insulated with glass fiber and covered with a steel jacket. Skid mounted units are factory equipped with burner, controls, wiring, and piping. A 10 to 15-ft metal stack and packaged condensate return or feed water pump system are optional. • **Eclipse Fuel Engineering Co.**, Eclipse Boiler Div., Box 4186, Chattanooga 5, Tenn.

For more details circle NED-706 D1 on enclosed inquiry slip

WIRE BRUSHES

removable bridles minimize flare

Designed for use on high-speed air and electric tools, KEB industrial wire brushes are filled with a steel wire that withstands severe use. Removable bridles which compress the brush face for greater cut and minimize flare are easily removed, even after partial brush wear. Applications include weld scale removal, tank and drum cleaning, corrosion and rust removal, paint removal, and burr removal on tubes and pipe. • **Osborn Mfg. Co.**, 5401 Hamilton Ave., Cleveland 14, Ohio.

For more details circle NED-707 D1 on enclosed inquiry slip

DOUBLE FOOT SWITCH

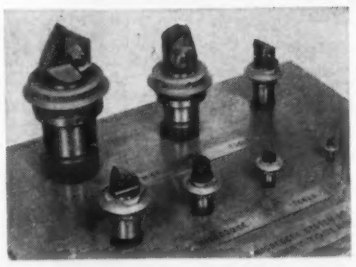
for 20 amp, 125-250 v ac circuits

Control of up-down, slow-fast, and other reversible operations is simplified with the Clipper Twin footswitch. Mounted on a common base, each of the two footswitches provides a momentary contact (press to start, release to stop) for single-pole double-throw circuits rated to 20 amp, 125-250 v ac. Only one external power cable is needed for the 4½ x 8⅜ x 1½-in. unit. A skidproof base prevents sliding, and four mounting holes allow attachment to floor or equipment. Several contact variations are available on one or both sides. • **Linemaster Switch Corp.**, 432 Woodstock Terrace, Woodstock, Conn.

For more details circle NED-708 D1 on enclosed inquiry slip

CUTTING TOOL HOLDERS

carbide inserts are micro-controlled



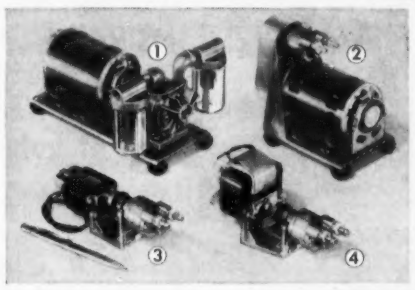
The hardest grades of disposable carbide tool bits, which cannot be brazed because of danger of cracking, are handled in this line of Microbore cutting tool holders. Cutting edges are accurately and quickly indexed without removal from the machine. A micrometer-vernier principle is used in the cartridge, which also has an assembly to provide the necessary rigidity for heavy cuts and for firmly seating and holding the inserts. Type S holder has a button head screw to seat and hold the insert and shim assembly. Type C holder has a clamp-on arrangement to release the shim, chip breaker, and insert for fast indexing. The first is for smaller holes down to 15/16-in. diameter. The second for larger bores is made in three types for light, medium, and heavy machining. Both holders are made for angular or straight machining. • **DeVlieg Machine Co.**, Microbore Div., Fair Street, Royal Oak, Mich.

For more details circle NED-709 D1 on enclosed inquiry slip

For more details circle NED-710 D1 on enclosed inquiry slip

NOW!

2 types — 3 capacities — from .35 to 1 c.f.m. — up to 24" vac. or 25 p.s.i.g. Choice of motors; a.c. and d.c.



GAST OIL-LESS MINIATURE VACUUM PUMPS — COMPRESSORS

For Controls, Instruments, Lab and Business Machines

Have a portability problem? Or limited space? You can provide moderate vacuum or pressure of surprising capacity with these compact Gast Air Pumps! They're completely oil-less. Carbon vanes lubricate themselves. *Air is oil-free!* Positive displacement rotary design is simple and dependable. Numerous motor choices:

(1) Model 1030 (also 0630), 1/12 or 1/20 h.p. split phase.
(2) Model 0330, belted to 1/20 h.p. split phase a.c.
(3) Model 0330, direct coupled to series motor a.c. or d.c.
(4) Model 0330, coupled to shaded pole motor a.c.

If your products require compact, light weight components, investigate Gast semi-miniature Air Pumps!

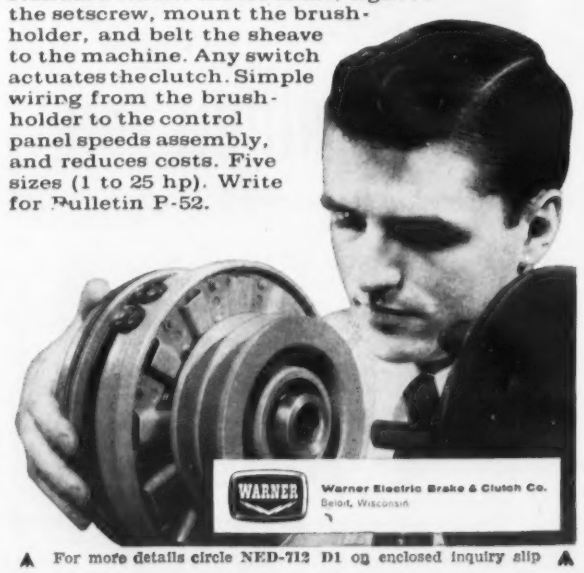
WRITE TODAY FOR BULLETIN M-OVP

Gast Manufacturing Corp., P.O. Box 117-R Benton Harbor, Mich.

GAST ROTARY
• AIR MOTORS TO 7 H.P.
• COMPRESSORS TO 30 P.S.I.
• VACUUM PUMPS TO 28 IN.
"Air may be your answer!"

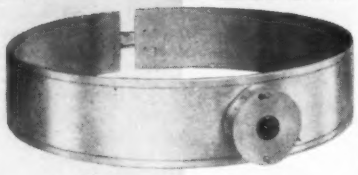
For more details circle NED-711 D1 on enclosed inquiry slip

Special Machinery Builders: Why spend engineering time and money detailing clutches, bearings, drive sheaves, and controls when you can buy them in a package? Especially when that package gives you faster cycling, more automatic control, easier pushbutton jogging, and greater versatility! Yes, all the benefits of electric motion control—now practical in every way for one-of-a-kind applications. It's a pre-engineered, completely assembled clutch-pulley combination—Warner's new Electro-Sheave. Just slip it over any standard NEMA motor shaft, tighten the setscrew, mount the brush-holder, and belt the sheave to the machine. Any switch actuates the clutch. Simple wiring from the brush-holder to the control panel speeds assembly, and reduces costs. Five sizes (1 to 25 hp). Write for Bulletin P-52.



For more details circle NED-712 D1 on enclosed inquiry slip

ACRA ELECTRIC DRUM HEATER



MELTS *Speeds up* SLOW FLOW MATERIALS

• RESINS • WAXES • OILS • GREASES
MOLASSES—TARS—MANY OTHERS

SAVES TIME, MONEY, MATERIAL

Turns solid or slow flow materials into smooth flow liquids, quickly and completely emptied from their drums. Quick, easy, tight gripping on-off assured by spring actuated toggle clamp. 3 heat selector switch. Heaters used 1 or more to a drum.

PAYS FOR ITSELF IN HOURS PAYS PROFITS FOR YEARS!

AC/DC Models for 3000 watts, 230 volts or 2500 watts, 115 volts. 5" aluminized steel heater band. Long life nickel-chrome heating element. Fully guaranteed against defects in material or workmanship.

55 GAL. Drum Heater #RH-1, shipping weight 10 lbs. **$29.50**

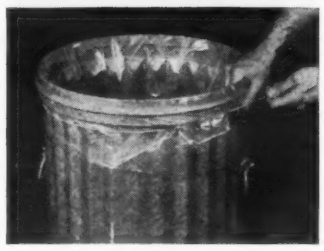
5 GAL. Drum or straight sided Pail Heater #PH-5—S/W 5 lbs. **$16.75**

FOB Chicago

ORDER DIRECT FROM
ACRA ELECTRIC CORPORATION
9907 Pacific Ave. • Franklin Park, Ill.

▲ For more details circle **NED-713 D1** on enclosed inquiry slip ▲

PLASTIC CAN LINERS
for rubbish or trash containers



This Jumbo clear plastic can liner is made to fit even the largest size rubbish or trash container. A large rubber band holds it firmly to the can, and a twist tie seals the bag for handy disposal. The can remains clean, and fumes, dust, and bacteria are confined. Bag can also be used for material handling, protection, or storage. Price is 10 cents. • **Klean Kan Bag Co.**, 64 E. Eighth St., New York 3, N. Y.

▲ For more details circle **NED-716 D1** on enclosed inquiry slip ▲

POTDEVIN
Semi-Automatic Feed Label Paster

Instant adjustment for labels up to 7½" wide. Operator's hands always free. Speeds-up production with minimum effort. Write for literature.

ESTABLISHED IN 1893 POTDEVIN
POTDEVIN MACHINE CO.
273 North Street • Teterboro, N. J.
Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling

▲ For more details circle **NED-720 D1** on enclosed inquiry slip ▲

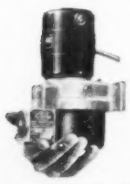
MINIATURIZED HYDRAULIC ACTUATION
for any type or size of valve!

NOW—a complete valve actuator so small it requires less room than a conventional hand wheel . . . so powerful it provides smooth, positive action on any valve.

The Oil-Dyne valve actuator provides two separate pressures, a higher opening pressure and a lower closing pressure, to protect valve components. Any combination of pressures from 50 to a peak of 5000 psi can be arranged.

For indoor or outdoor service, direct or remote control, Oil-Dyne valve actuators can be equipped with any type of safety device and signal, explosion-proof features, and a hand pump for emergency manual control.

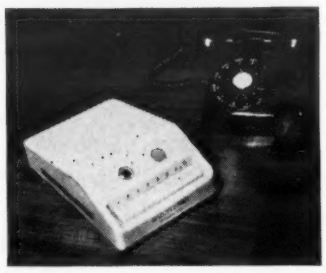
Oil-Dyne will install actuators on any valve furnished by the customer directly or through any valve manufacturer, or will furnish complete actuators, including mounting devices, to customers wishing to make their own installation. For complete information, write for Catalog VA-10.



PIONEERING MINIATURIZED HYDRAULIC ACTUATION
OIL-DYNE INC.
2115X West Marquette Road • Chicago 36, Ill.
PUMPS • CYLINDERS • VALVES
PRESSURE SWITCHES • ACCESSORIES

▲ For more details circle **NED-714 D1** on enclosed inquiry slip ▲

RADIO INTERCALL SYSTEM
has 3-lb transistorized transmitter



Radio personal call coverage of 40,000 to 300,000 sq ft is provided by the Multitone radio communications system. A compact battery-operated, transistorized transmitter assures economical paging. The 15-channel set-up affords either speech or private coded signal for a total of 15 persons carrying slim 5-oz pocket radio receivers. Operating cost is less than 5 cents per day, and no radio license is needed. Transmitter price is $445. • **Multitone Electronics, Ltd.**, 130 Merton St., Toronto, Ontario, Canada.

▲ For more details circle **NED-717 D1** on enclosed inquiry slip ▲

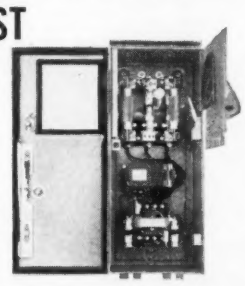
CARTON & TRAY FORMER
features quick size changeover

Carton and tray blanks from 5 to 22 in. long by 3½ to 18 in. wide plus certain sizes outside this range, are handled by the Model PG carton and tray forming machine. Size changeover time has been reduced from 1 hr to 5 min. Carton blank magazine, pusher bar, gluing assembly, forming run, and forming mandrel are each replaced with new assemblies for the specific size carton or tray desired. Production speed is up to 70 per minute. Closed glue system affords immediate operation and eliminates costly clean-up time. • **Peters Machinery Co.**, 4700 N. Ravenswood Ave., Chicago 40, Ill.

▲ For more details circle **NED-718 D1** on enclosed inquiry slip ▲

New General Electric combination safety starter . . .

PROTECTS AGAINST UNAUTHORIZED ENTRY



Unique door mechanism helps prevent unauthorized entry that could cause danger to operating personnel. Door opening procedure is simple, but requires two steps and the use of a screwdriver. Once door is opened, inspection or voltage checks can be performed while disconnect switch is in ON position. If switch is OFF, it cannot be turned ON again while either door is open unless a defeater mechanism is operated. Keyhole and two-slot mounting simplifies installation. Starter meets JIC standards for NEMA 12 enclosures, is priced no higher than conventional JIC combination starters.

FREE PUBLICATION

Ask your G-E representative for publication GEA-7321, or write to Section 813-39, General Electric Co., Schenectady 5, N. Y.

Progress Is Our Most Important Product
GENERAL ELECTRIC

▲ For more details circle **NED-721 D1** on enclosed inquiry slip ▲

NEW STRIPPIT "BN"
self-contained, self-stripping hole punching unit

• Designed for use *with or without* a guide button. However, for special applications and optimum hole quality, the option of using a fitted guide is still available. Since all holders are keyed, only a punch and die are required for piercing round and shaped holes in material up to 10 ga.

The "BN" unit has many other innovations which will make it your immediate choice. Get the complete story. Write now for free "BN" catalog.

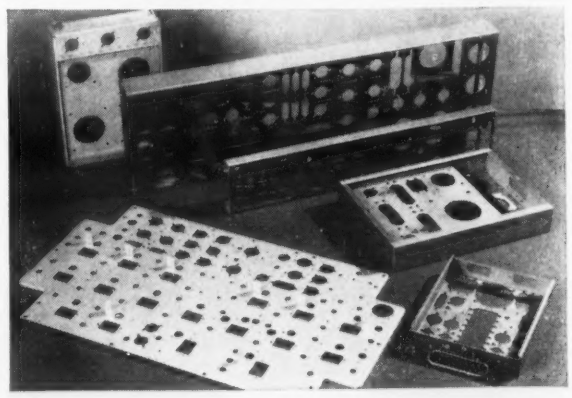
WALES STRIPPIT INC.
227 Buell Road • Akron, New York

▲ For more details circle **NED-715 D1** on enclosed inquiry slip ▲

Uses for the STRIPPIT Super 30 Fabricator are practically unlimited. It will punch sheet material up to ¼", notch and nibble sheet material up to ⅛". Micrometric gaging both front to back and side to side provides fast, extremely accurate work positioning. Adjustable worktable allows punching of angles and formed parts. Indexed holder permits rotation of shaped punches to any angle. Optional STRIPPIT Duplicator converts Super 30 to low cost production punching unit. Catalog 30S available on request.

WALES STRIPPIT INC.
227 Buell Road • Akron, New York

▲ For more details circle **NED-719 D1** on enclosed inquiry slip ▲



Punch complicated patterns fast with STRIPPIT 15-A Fabricator

Round and shaped holes are quickly and accurately reproduced with the versatile STRIPPIT 15-A Fabricator. Perfect for pilot runs, prototypes and limited production, it eliminates time consuming tool design and die making. Features multiple-stop gauging and quick-change punches and dies. Converts to high speed production unit with STRIPPIT Duplicator. Capacities—up to 3½" diameter holes, up to ¼" sheet material. Write now for full information.

WALES STRIPPIT INC.
227 Buell Road • Akron, New York

▲ For more details circle **NED-722 D1** on enclosed inquiry slip ▲

Babbitt *Adjustable* **SPROCKET RIM**
with Chain Guide
CHANGES THAT DANGER ZONE TO A SAFETY ZONE

enables you to
ADD PLANT AREA

If re-aligning equipment will yield more working space, better production, lower costs . . . do it now. Save all space wasted for placing ladders to reach overhead valves. At the same time, convert Danger Zones to Safety Zones. Equip every overhead valve wheel in your plant with Babbitt Adjustable Sprocket Rims with Chain Guides.

- They simplify pipe layout.
- They fit any size valve wheel.
- They are easy to install and operate.
- They operate any valve from the floor.
- They save time and money.
- The first cost is only cost (no maintenance).
- They are packed completely assembled (one to a carton), with easy-to-follow instructions.
- A hot-galvanized rust proof chain is available for all sizes.

Babbitt Adjustable Sprocket Rims with Chain Guide are carried in stock by most mill supply houses. Just phone your mill supply salesman, or contact us direct.

Babbitt STEAM SPECIALTY CO.
16 BABBITT SQUARE, NEW BEDFORD, MASS., U. S. A.
For more details circle NED-723 D1 on enclosed inquiry slip

Hobbs DUAL CIRCUIT PRESSURE SWITCHES

Add a NEW DIMENSION to Pressure Activation!

DOUBLE DUTY! Disconnects one electrical circuit while placing the other in operation. Industry-approved for a wide range of applications in dual circuit activation of various types of instruments, warning signals, safety devices, fuel pumps — in many other ways for making and breaking circuits. Ideal for locking out a starting motor while the engine is running. Can be used with oil or air . . . or with standpipe, almost any liquid or gas.

- Non-ferrous pressure chamber
- Alloy contacts
- Phosphor-bronze diaphragm
- Preset at factory

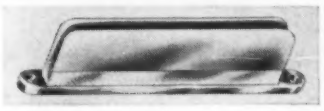
Available in pound setting specifications in both circuits within ranges of 3-6, 7-14 and 15-60 psi. Compact — only 1-11/16" diameter. Pressure assembled and pretested at 150 psi. Designed for use on direct current.

A COMPLETE LINE OF PRESSURE SWITCHES

Also available — a wide selection of single circuit pressure switches. Built by the manufacturers of Hobbs Running Time Meters and Shock-Mounted Head Lights. Distributors in principal cities . . . WRITE FOR CATALOG PS605.

Symbol of SW Excellence
John W. Hobbs Corporation
A DIVISION OF STEWART-WARNER CORPORATION
2076 YALE BLVD., SPRINGFIELD, ILLINOIS
For more details circle NED-724 D1 on enclosed inquiry slip

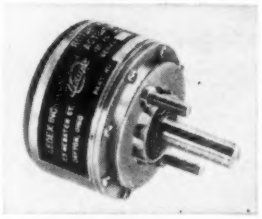
THERMOELECTRIC UNIT
can be connected in series-parallel



An infinite variety of voltages, resistances, and currents is possible by connecting any number of Seejen thermoelectric power packages in series-parallel or any combination into any configuration. Combined units are called Seejenator generators. The basic 1½-oz element (shown) produces usable thermoelectricity directly from heat. Potential applications will use waste heat, sunlight, component-caused heat, or aerodynamically-generated heat which can be put to use in low power applications. Air or liquid cooled Seejenators will provide heat sink and power in avionic applications. Single stocked Seejen sells for $4.95, measures 6 x 1½ x ⅜ in., and has a resistance of 100 ohms, voltage at 200° F differential of 1 v, power output of 2.5 milliwatts, and current into 100 ohms of 5 ma. • **Harco Laboratories, Inc.**, 77 Olive St., New Haven, Conn.

For more details circle NED-726 D1 on enclosed inquiry slip

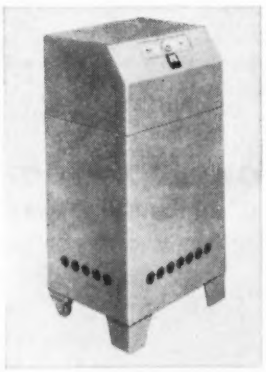
PNEUMATIC ROTARY ACTUATOR
makes rapid 90-degree stroke



Fitting in a 1½ x 2-in. package, this miniaturized Series 50 pneumatic rotary actuator completes a 90-degree stroke within 30 to 40 milliseconds. Only 0.16 cu in. of air is needed to displace the piston. Action to the output shaft is direct, and torque produced at 120 psi is 6.5 lb-ft. Prices range from $20 in lots of 1 to 9 to $10 in lots of 500 or more. • **Ledex Inc.**, 123 Webster St., Dayton 2, Ohio.

For more details circle NED-727 D1 on enclosed inquiry slip

PACKAGED AIR CLEANER
removes air-borne dirt, smoke



Portable floor and suspended ceiling models are available in this self-contained Commercial Room electronic air cleaner for laboratories and large meeting rooms. Unit will clean, deodorize, and recirculate air in rooms up to 5000 cu ft. It removes 90 per cent of all air-borne dirt and smoke particles which pass through it and, using activated charcoal, rids the air of unpleasant, irritating odors. • **Electro-air Cleaner Co.**, Dept. CR, Olivia & Sproul Streets, McKees Rocks, Pa.

For more details circle NED-728 D1 on enclosed inquiry slip

for a million dollar MISSILE or a 10c TOY

Valuable **FREE BROCHURE**

Whether you require the close tolerance needed in a satellite—or the economical production necessary for a 10c toy . . . DUDEK & BOCK is your most dependable source for springs, wire forms and stampings. Years of know-how *quality control* guarantee you top performance at lower cost.

Phone DICKENS 2-1020 for estimates and delivery dates

DUDEK & BOCK
SPRING MANUFACTURING CO.
4014 W. GRAND AVE. • CHICAGO 51, ILL.
For more details circle NED-729 D1 on enclosed inquiry slip

KILIAN
UNGROUND BALL BEARINGS
offer you—

QUALITY—For more than 40 years Kilian Unground Ball Bearings have been the highest quality and the most accurate unground ball bearings obtainable.

ECONOMY—Inexpensive Kilian Unground Ball Bearings are the perfect answer where precision is not required, where loads are light and speeds are under 2500 r.p.m.

SUPERIOR CONSTRUCTION—All component parts are machined from steel bars and are properly heat treated thus assuring greatest accuracy and an absolutely true running concentric bearing.

CUSTOM DESIGN—Shown here are just a few of the thousands of different bearings that have been designed and produced for America's leading industries. Because of our method of manufacture, we can offer you special bearings in quantities of 2500 or more.

CHOICE OF MATERIALS—In addition to carbon steel, we can furnish bearings made of bronze and stainless steel. NEOPRENE and NYLON tired outer races are available where quiet operation is desired.

CHOICE OF FINISH—For corrosion resistance as well as appearance, various types of finishes are available such as zinc, cadmium, dulite, nickel and chrome.

KILIAN
MANUFACTURING CORP.
SYRACUSE, N. Y., U.S.A.
CATALOG ON REQUEST
Distributed throughout United States and foreign countries.
For more details circle NED-730 D1 on enclosed inquiry slip

20% labor savings on overhead installations with TALLESCOPE... telescoping aluminum scaffold

Western Electric Company plant, Kansas City, Missouri.

In overhead work on heating and ventilating systems, six Tallescope aluminum scaffolds saved 20% on total installation time. Units fold down to pass through doorways and under low ceilings, saving repeated assembly and disassembly of conventional scaffolds. Western Electric Company plant, Kansas City, Missouri. On all overhead maintenance, Tallescope gets men up in the air fast; lets them finish the job fast! Extends instantly for reaching heights up to 31 feet. Lightweight and quickly assembled without tools or loose parts.

Write for TALLESCOPE *circular*
UP-RIGHT SCAFFOLDS
DEPT. 145, 1013 PARDEE, BERKELEY, CALIFORNIA
In Canada: Up-Right Scaffolds, Ltd., 120 Russett St., Oshawa, Ontario
For more details circle NED-725 D1 on enclosed inquiry slip

Production Model

CHECK THESE FEATURES!

1. A low cost 5 gallon airless unit.
2. Weighs only 46 pounds, yet does the work of units much heavier.
3. Instant-latch cover and ease of cleaning gives the Monark "greased lightning" color changing speed!
4. Airless operation eliminates overspray and bounce-back . . .
5. Handles anything from protective coatings to precise final finishes.
6. Works direct from 1 or 5 gallon containers.

WHAT MORE COULD YOU WANT!

For more details, see your GRACO dealer or write:

TRY IT BEFORE YOU BUY!

GRACO ENGINEERS & MANUFACTURERS

GRAY COMPANY, INC.
47 Graco Square
Minneapolis 13, Minnesota

See Phone Book Yellow Pages "Spraying" for Graco Suppliers

For more details circle NED-731 D1 on enclosed inquiry slip

AERO-SEAL JET®
WORM DRIVE HOSE CLAMP

Clamps may come in an assortment of shapes and mechanisms in an effort to duplicate some of the features of the AERO-SEAL JET, but one still stands out, and that is the AERO-SEAL JET itself.

This is because it provides all of the advantages of precision worm drive, plus almost instantaneous installation or removal. Bands and housings are of 302-18-8 stainless steel. All stainless if desired. Regular AERO-SEAL design also available.

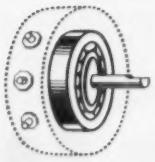
Be sure to get Genuine AERO-SEALS. Ask your supply house.

BREEZE CORPORATIONS, INC. BREEZE MARK
700 Liberty Ave., Union, N. J. • Cable Address: Breeze, Union, N. J.

For more details circle NED-732 D1 on enclosed inquiry slip

plan with confidence...

BALL BEARINGS



Here is a miniature ball bearing, made by the *new* Heim process, with characteristics perfectly adequate for many applications now using precision bearings. Heim's unique process produces a bearing with a full complement of balls, deep, unbroken, burnished ball grooves, with maximum capacity for radial and thrust loads.

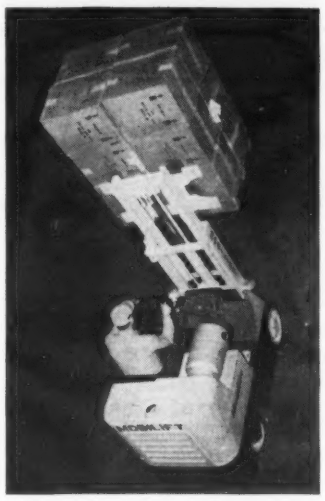
Also available in extremely narrow widths and small diameters, single or double row types, with plain or flanged outer members, close integral labyrinth or mechanical shields and/or seals on one or both sides.

Write the Heim engineering department for full information.

Mfd. by THE HEIM COMPANY
for UNIVERSAL BEARING CORPORATION
800 SANFORD STREET
FAIRFIELD, CONNECTICUT

For more details circle NED-733 D1 on enclosed inquiry slip

FORK LIFT TRUCK lifts 4000 lb to 130 in.



Mobilmatic drive built into the M-40 fork lift truck is a compact automatic transmission and clutch combination. It allows one-lever control of truck direction without clutching or shifting. Each rear wheel is independently suspended from an oil cylinder mounted on the outer frame. Stable, four-point support is given the truck and its load on floors with levels varying up to 3 in. The cushion-tired, sit-down truck lifts a 4000-lb load to a height of 130 in. It has speeds from 0 to 7 mph in low range and 0 to 11 mph in high range. Outside turning radius is 80 in. • **Motec Industries, Inc.**, Mobilift Div., Hopkins, Minn.

For more details circle NED-734 D1 on enclosed inquiry slip

STORAGE FILE knocks down for storage, shipment

Double-thick supporting sidewalls and 350-lb test corrugated fiberboard are used in the Pyramid drawer and shell type storage file. It knocks down for storage and shipment but, with its steel reinforcement at the front, locks into a rigid, durable, and stackable unit. All important joints are prestapled; an ordinary lead pencil is the only tool needed for assembly. Stacking guides, drawer stops, recessed drawer pulls, and card holders are standard. Bases are optional. Price is $4.15. • **Lennox Distributors**, Box 483, Massillon, Ohio.

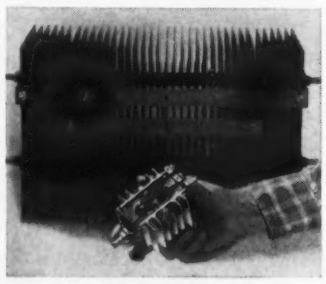
For more details circle NED-735 D1 on enclosed inquiry slip

CORROSIONPROOF PAIL of chemical-resistant hard rubber

Handling of hot, abrasive, corrosive, or destructive chemicals is facilitated with this 3-gallon hard rubber pail. It will withstand concentrated acids and caustics. Graduated markings on inside afford accurate measurements from 1 to 12 qt. It has a hard rubber handle, safety-grip to speed pouring, and reinforced bottom. • **Stokes Molded Products, Inc.**, Taylor at Webster Street, Trenton 4, N. J.

For more details circle NED-736 D1 on enclosed inquiry slip

SILICON BRIDGE RECTIFIER affords 50-70 per cent space savings

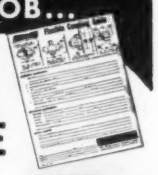


So compact is the Syntron Power Point silicon bridge rectifier that it can be installed at the point of use, eliminating long power runs to equipment. Space savings of 50 to 70 per cent are realized over conventional silicon stacks as shown in background. Rectifier is intended for use in battery charging units, dc motor control drives, lab and aircraft power supplies, and in automotive, computer, and data processing instrumentation. It is offered in single and three-phase networks capable of handling 2 to 7½ kw. Current ratings range from 10 to 25 amp at 45° C ambients. Costs in OEM quantities of 500 or more are $8.40, $10.48, and $18 respectively for single-phase 10-amp, three-phase 40-amp, and 7½-kw units. • **Syntron Co.**, Semiconductor Div., 405 Lexington Ave., Homer City, Pa.

For more details circle NED-737 D1 on enclosed inquiry slip

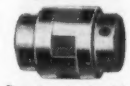
TO GET THE FLEXIBLE COUPLING BEST SUITED FOR YOUR JOB...

USE THE Lovejoy FLEXIBLE COUPLING GUIDE



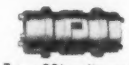
Save time, money and mistakes, insure trouble-free performance . . . by using the Lovejoy Flexible Coupling Guide. You'll get the exact type and size for your particular application—*plus all these Lovejoy features:*

- No lubrication required.
- Simple, rugged construction—few parts, no intricate mechanisms.
- No wear on metal parts—the load is transmitted through cushions only.
- Double-life cushions—one half the cushions act as idlers, except on reversing loads. Thus, a quick interchange provides a new set of cushions.
- Cushions engineered to load and service conditions.
- A maintenance-free coupling that is completely machined for ease and speed of alignment.
- Act now! Send for your Flexible Coupling Guide today. Request catalog.

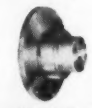


Type L—standard duty, spider cushion.

Types C and H—medium and heavy duty, individual cushions.



Type RRL—disassembles without axial movement of shafts.

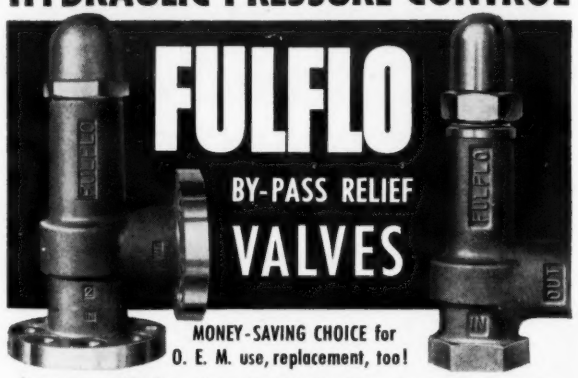


Type CF—bolts directly to flywheel.

LOVEJOY FLEXIBLE COUPLING CO.
4803 WEST LAKE STREET • CHICAGO 44, ILLINOIS

For more details circle NED-738 D1 on enclosed inquiry slip

for DEPENDABLE HYDRAULIC PRESSURE CONTROL



MONEY-SAVING CHOICE for O. E. M. use, replacement, too!

Low price and high quality make FULFLO piston-type hydraulic valves a natural O. E. M. choice. The service they deliver . . . quiet, dependable and trouble-free . . . makes them ideal from the equipment users' viewpoint.

- Screw or flange models . . . to 500 lbs. . . . for pipe sizes to 3"
- Steel, cast iron or brass bodies . . . brass, steel or stainless trim
- Fast shipment of standards . . . special to your requirements

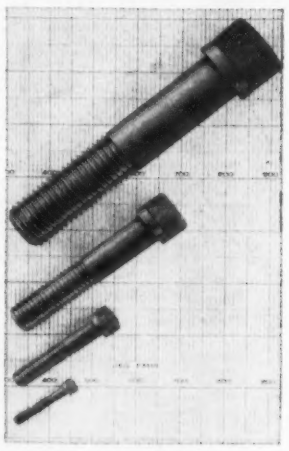
FOR EXTRA CONTROL CONVENIENCE
Where frequent pressure setting is needed, install a FULFLO Hand Wheel Valve; available in a wide range of types.

Request complete catalog from:

The FULFLO SPECIALTIES CO., Inc. FULFLO
412 Fancy Ave. Blanchester, Ohio

For more details circle NED-739 D1 on enclosed inquiry slip

Dimensionally Controlled Heat Treatment gives Mac-it screws more durability



The heat treatment specifications for every Mac-it alloy steel screw are determined by its dimensions as well as its intended use.

At Mac-it, large and small diameters are not run through the heat treating processes indiscriminately. Instead, our metallurgists establish a heat treating cycle for each type and size. This assures that every screw has the proper combination of strength, toughness, ductility and resistance to vibration and shock.

Dimensionally controlled heat treatment is just one illustration of the care which is taken in every step in the manufacture of Mac-it screws.

That's why Mac-its *hold tight in a tight place.*

Mac-it®

NEW SPECIFICATION SHEET listing new 1960 Series Socket Screw Industry Dimension Standards. Write for your *free* copy.
Mac-it Parts Co., Dept. 24, Lancaster, Pa.

MAC-IT ALLOY STEEL SCREWS

For more details circle NED-740 D1 on enclosed inquiry slip

Pyles AIR-OPERATED SEALANT GUNS

reduce material waste up to 75%

Save TIME, MATERIAL and MAN HOURS with PYLES high efficiency equipment.

- Quality built for long service.
- Ideal for two-part compounds.
- Sturdy, all-metal construction.
- Disposable polyethylene liners save cleaning.
- Smooth, uniform flow. Dripless shut-off.
- Lightweight, easy handling.
- Uses standard air supply.

Write for detailed literature and prices.

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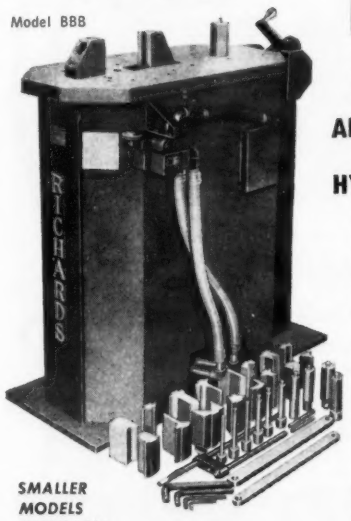
For more details circle NED-741 D1 on enclosed inquiry slip

Multiform

BIG BROTHER BENDER

Model BBB



SMALLER MODELS AVAILABLE

Illustrated above are a few of the many forms that can be produced efficiently on the Multiform Bender.

AIR OPERATED MODELS IN FOUR SIZES HYDRAULIC—3 MODELS

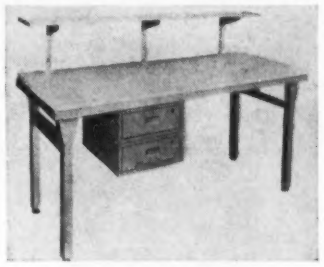
The heavy duty Big Brother Bender is designed for fabricating bus bars, brackets, fixtures, etc., without special tooling. Air controlled with finger tip response. Comes complete with dies, mandrels and wrenches—punching and blanking dies extra. Will punch holes up to 1" and form material up to 1/4" thick by 4" wide. We also build smaller models, hand or air operated, for bending materials up to 1/8" x 1 1/2".

Send for illustrated folder M6

J. A. RICHARDS CO. Myrtle & Pitcher Sts. Kalamazoo, Mich.

For more details circle NED-742 D1 on enclosed inquiry slip

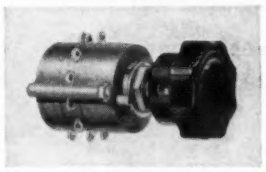
HANDY WORK TABLE
Formica, Masonite, or Glaze-Weld top



Particularly suited for industrial assembly or inspection operations, GP-100 Swaptop work table is made in 4, 5, and 6-ft lengths. Optional Formica, Masonite, or Glaze-Weld tops resist chemical stains, abrasion, and burns. This metal table combines a leveling system with a rigid frame that is free of dust traps. It assembles quickly with screwdriver and wrench. Options include casters, nestable drawers that slide on nylon rollers, various shelving combinations, and brackets for power above or below the work surface. • **Leitch-Huard Corp.**, Box 1024, Manchester, N. H.

For more details circle NED-744 D1 on enclosed inquiry slip

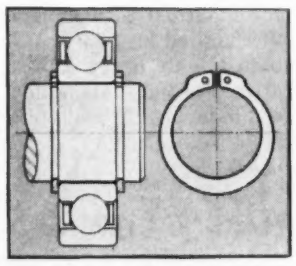
MINIATURE TAP SWITCH
has up to 8 decks, adjustable stops



Basic Type 3A molded tap switch has a diameter of 1 1/4 in. over the terminals and weighs 30 grams. The single-hole mounted unit is available with up to eight decks and up to 12 positions per deck, single-pole, or six double-pole positions. Adjustable stops permit a lower number of steps. Switch has a rating of 1200 v rms, 2000 v dc, 5 amp, and 115 v. Expected life is 1 1/2 to 2 million revolutions in a range of −65 to 80° F. • **Tech Laboratories, Inc.**, 48 Bergen & Edsell Blvds., Palisades Park, N. J.

For more details circle NED-745 D1 on enclosed inquiry slip

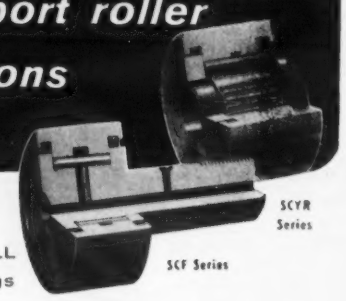
HEAVY-DUTY RETAINING RING
high load unit retains bearings



Heavy-duty, external-type Series 5160 retaining ring can be used without spacer washers to secure ball and roller bearings. Because of its high load capacity, ring may be used to replace heavy-duty nuts, machine shoulders, and other bulky devices for securing components on shafts and axles. Made of oil-dipped carbon spring steel, series is substantially thicker and has wider lugs than standard rings. When first expanded over a shaft, ring takes a predetermined degree of permanent set. It is available in 11 sizes for 0.473 to 2-in. shafts. PH 15-7 Mo stainless steel and berryllium copper rings are also offered. • **Waldes Kohinoor, Inc.**, Truarc Retaining Rings Div., 47-16 Austel Place, Long Island City 1, N. Y.

For more details circle NED-746 D1 on enclosed inquiry slip

Protected performance in cam follower, guide and support roller applications



Sealed and pre-lubricated McGILL CAMROL® bearings

Protect your roller follower applications for longer life with sealed CAMROL bearings. McGill packs high load capacity, precision accuracy, and positive seals into standard bearings. Avoid building up special units. The SCF series is complete with integral stud. In the SCYR series an inner race provides for shaft mounting. Black ferrous oxide finish adds corrosion resistance. Roller diameters range from 3/4" to 4".

Write for helpful Bearing Handbook No. H-54-B

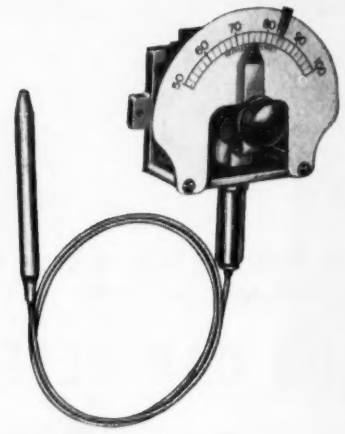
engineered electrical products
McGILL
precision needle roller bearings

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST., VALPARAISO, IND.

For more details circle NED-747 D1 on enclosed inquiry slip

NEW INDICATING TEMPERATURE CONTROL

Range Limits −100 to +600°F E65N



New Design gives maximum accuracy at low cost!

The UE Type E65N control is offered in basic skeleton form so that it may be easily incorporated, or designed into equipment, without the need and expense of an enclosure. Enclosures, however, are available upon specification. Setting and indication are clearly visible on a single scale allowing easy reference between the setting and controlling temperatures. Ideal for incubators, centrifuges, oxygen tents, sterilizers, and other applications where it is necessary to control and indicate temperature of gases, liquids and hot plates.

Temperature Ranges	A wide variety of scales between −100 & +600°F.
Thermal Assemblies	Standard 4' capillary with several bulb styles and sizes.
Operation	Liquid filled bellows assembly expands or contracts with heating or cooling thus actuating a snap-acting electrical switch at desired control point.
Switch Ratings	15 amps 115/230 volts AC. DC and other special switches available.
Switch Actions	Normally closed; normally open; and double throw, no neutral position.
Electrical Connections	Lead wires attached to terminal on switch.
Size & Weight	1 lb; scale plate 4 1/2" wide.
Variations	Design variations available on request.

UNITED ELECTRIC *manufactures a complete line of temperature, pressure and vacuum controls. For application requiring custom-built units or modified standard units, call upon a UE application engineer for recommendations. Request Type E65N Design Catalog Sheet for complete specification and pricing data and for information regarding other United Electric temperature controls.*

UE United Electric Controls COMPANY
85 SCHOOL STREET, WATERTOWN, MASS.

For more details circle NED-748 D1 on enclosed inquiry slip

Johnson SETS the PACE!

Model J Heavy Duty Band Saw (Wet or Dry)

- Large Capacity
- Versatility
- Variable Speeds
- Lower Cost
- Semi-Portability
- 3-Point Suspension
- Operational Safety
- Absolute Accuracy
- Centralized Controls

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For more details circle NED-743 D1 on enclosed inquiry slip

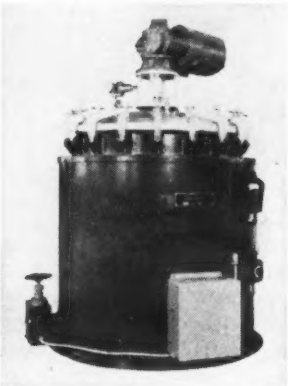
MAY-FRAN CHIP CONVEYOR

MAY-FRAN makes a standard chip conveyor for every machine tool

MAY-FRAN MANUFACTURING CO.
1710 CLARKSTONE RD.
CLEVELAND 12, OHIO
PHONE: KE 1-2304

For more details circle NED-749 D1 on enclosed inquiry slip

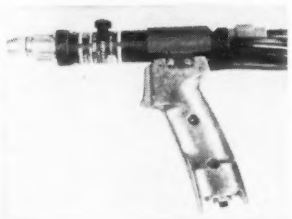
HEATED PRESSURE TANKS
for spraying, impregnating, melting



Spraying, pressure or vacuum impregnating, and conveying of melted compounds to distant points are typical of the many uses for line of electrically heated low pressure tanks. Constructed of a 0.125-in. thick mild steel inner tank and a hot rolled welded housing, tanks withstand pressures to 60 psi and vacuum to 20 in. Variable dial thermostat controls temperatures in range of 250 to 550° F. They operate on 115 to 550-v ac. Model shown has sight glass, power agitator, and electrically heated valve. Various other accessories are offered. • **Sta-Warm Electric Co.**, 626 N. Chestnut St., Ravenna, Ohio.

For more details circle NED-751 D1 on enclosed inquiry slip

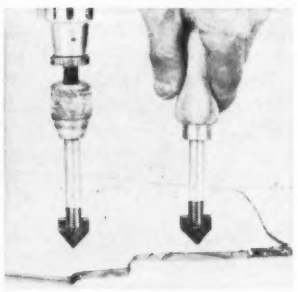
MIG WELDING TORCH
performs four types of welding



Spray arc, short arc, plug, and spot are four types of mig welding performed by the 500-amp Model ST-5 torch, usable with all Sigmatic mig welding machines. In-line design with all service lines (gas, power, water, and wire) entering the torch through the rear of the barrel permits torch to be supported on the welder's shoulder for balanced operation. By water cooling the contact tube, continuous use with currents up to 500 amp is possible, even with carbon steel welding wire. The aluminum alloy pistol grip handle is adjustable along the torch barrel, or is removable for using the torch in mechanized installations. Large trigger is easily manipulated with heavy gloves. A wire-inching button is at the base of the handle. Wire size is easily changed. • **Linde Co.**, Electric Welding Dept., 270 Park Ave., New York 17, N. Y.

For more details circle NED-752 D1 on enclosed inquiry slip

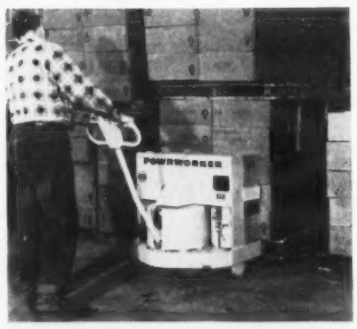
HARD MATERIAL DRILL
used as hand tool or in power drill



Holes can be drilled in glass, concrete, tile, plaster, brick, stone, wood, cement, slate, ceramic, plastics, and hardened steel with the Smith Super Drill. It is used as a hand tool with a handle, or it may be used in the 1/4-in. chuck of power tools by removing from the handle. Twelve sizes from 1/32 to 1 in. range in price up to $8. • **Smith Engineering & Tool Co.**, Box 94, Glen Ridge, N. J.

For more details circle NED-753 D1 on enclosed inquiry slip

ELECTRIC PALLET TRUCK
has capacity of 3000 lb



Pallet forks in lengths from 30 to 54 in. in 6-in. increments are available on the Powrworker 30P electric pallet truck. The 12-v, 3000-lb capacity unit for varied light duty plant and warehouse handling assignments has a fully loaded speed of 2.7 mph. It can negotiate a 15 per cent grade under full load. Two forward and two reverse speeds, plus travel direction and 4-in. vertical lift and lowering, are controlled from fingertip switches built into the steering handle control head. Spring-loaded handle returns to vertical when released, automatically cutting off power and applying brakes. A 90-degree turn is possible. • **Clark Equipment Co.**, Industrial Truck Div., 1952 Arze St., Battle Creek, Mich.

For more details circle NED-754 D1 on enclosed inquiry slip

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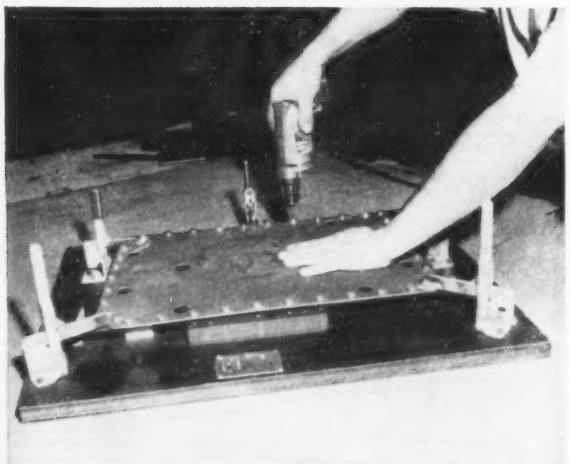
FOR POSITIVE HOLDING OF COMPONENTS IN JIGS AND FIXTURES...

YOU CAN DEPEND ON DE-STA-CO TOGGLE CLAMPS



Simple drilling fixture made up of 5 toggle action clamps mounted on a plywood base holds drill bushing plate firmly in position.

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DETROIT STAMPING COMPANY
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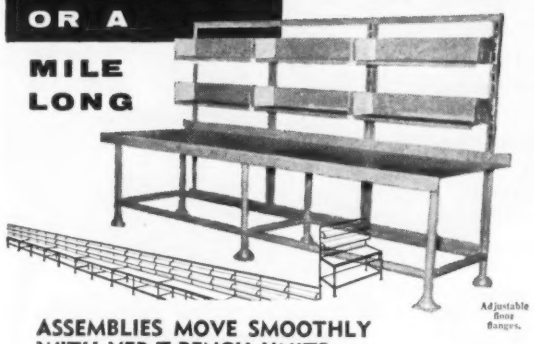
For more details circle NED-750 D1 on enclosed inquiry slip

THREE FEET OR A MILE LONG

The Ver-T-Bench



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A truly DeLuxe assembly unit.

Many Advantages of Ver-T-Bench Units

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More storage space for finished work

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MATERIAL HANDLING DIVISION
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For more details circle NED-755 D1 on enclosed inquiry slip

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1/2 TON to 7 TON for
• MARKING
• SWEDGING
• ASSEMBLING
• FOLDING
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OLSENMARK POWER PRESSES

K 60 A shown with a heated head 4-7 TON

Square Rams — prevents rotation of head, assures accurate registration Adjustable Gap — head raises and lowers on 1/2 ton presses, table raises and lowers on larger models • Long Head Strokes — easier to set up and feed • Adjustable Ram Speed and Pressures • Double Toggle Head action on larger models • Rugged, cast iron, "C" frame construction • Hand lever included for setting up air machines • Two way air cylinders and four way control valves • Hand operated presses can be later converted to air in your plant.

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Telephone: CAnal 6-3384
MANUFACTURERS OF KENSOL ROLL LEAF STAMPING EQUIPMENT . . . HAND, POWER AND AUTOMATIC

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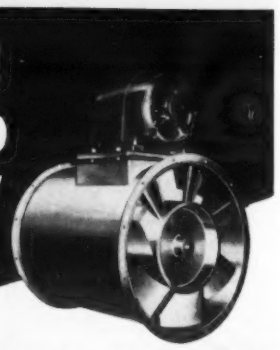
NOW IN SIZES TO 60"



HARTZELL VANEAXIAL BLOWERS

- New 60" belt-drive model moves 96,450 at 2" static pressure (98.3 B.H.P.) — 66,500 CFM at 7" static pressure (116.7 B.H.P.)
- Complete line includes belt-drive models in 11 sizes— 12" to 60" — and direct drive models in six sizes — 18" to 42".
- Rugged all-welded construction; cast aluminum alloy impellers.

For complete details, call your nearby Hartzell field office or write for Bulletin A-110.

Hartzell PROPELLER FAN COMPANY
Division of Castle Hills Corp. • PIQUA, OHIO
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MARKING RULE 6 says: freight must be stenciled or otherwise durably and plainly marked.

DURABLY means in a durable manner; lasting in spite of hard wear or frequent use. (You get durability with D-B ROL-IT-ON stencil inks.)

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DISTRIBUTORS IN ALL PRINCIPAL CITIES

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CONTROL MOTOR FUEL COSTS

WITH THE SERIES 58 Fleet Jr. gasoline pump

- For small truck fleets, construction firms, industry, farms, ranches
- Faster, easier, safer refueling; delivers up to 12 gallons per minute
- Padlock provision prevents pilferage
- Easy-to-read dial to control fuel inventory
- Made by Bennett, leader in service station pump manufacturing, for dependable, low-maintenance service.
- Available with lighted dial face

JOHN WOOD COMPANY
BENNETT PUMP DIVISION • Muskegon, Michigan

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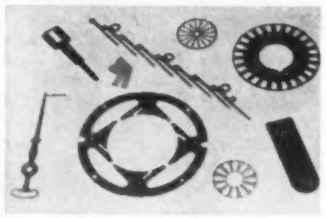
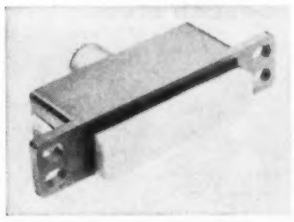
THIN METAL PARTS
made by photomechanical process



Unusually thin large or small parts can be made from practically any sheet alloy by a photomechanical duplicating process. Parts have high precision, definite concentricity, and complete flatness. Original masters are laid out on a planograph varying from two to twelve times the finish size, minimizing the possibility of error. Make-ready on parts varies from $30 to $155, and parts range from 5 to 55 cents each in lots of 1000. • **Dayton Rogers Mfg. Co.**, 2824 13th Ave. S., Minneapolis 7, Minn.

▲ For more details circle NED-761 D1 on enclosed inquiry slip ▲

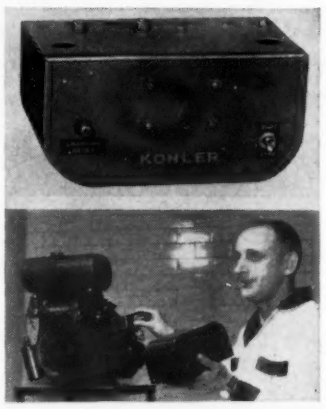
BAR SWITCH-LIGHT
2-amp, 28-v dc palm-actuated unit



Momentary-contact Series 34 bar switch-light for use in systems consoles and panels uses Pendar keyboard switch mechanisms with normally open and closed contacts as one, two, or three-pole double-throw and two, three, four, or six-pole single-throw configurations. Rated 2 amp resistive at 28 v dc, compact switches operate silently. Dual independent lamp circuits assure uniform light across surface of 3 x 3/4 in. molded lens which is available plain or engraved in red, white, green or yellow colors. Similar switch-lights with subminiature switch mechanisms are also available either as momentary or push-push units rated 28 v dc, 5 amp resistive, 3 amp inductive. • **Pendar, Inc.**, 14744 Arminta St., Van Nuys, Calif.

▲ For more details circle NED-762 D1 on enclosed inquiry slip ▲

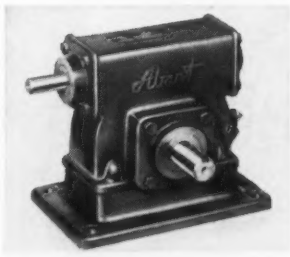
AUTOMATIC ENGINE CONTROL
starts and stops units remotely



Usable on all single cylinder engines equipped with 12-v combination starter-generator and automatic choke, this remote controller will start and stop the engine according to the power demand. It can be used in combination with a float switch, thermostat, time clock, or other device. When the engine begins to run under its own power, a cranking relay disconnects it. Should the engine fail to start, a switch trips automatically after a 1-min delay and terminates cranking action until a reset button is pushed. Controller is offered as optional on six Kohler engines rated from 4 to 12½ hp. • **Kohler Co.**, Kohler, Wis.

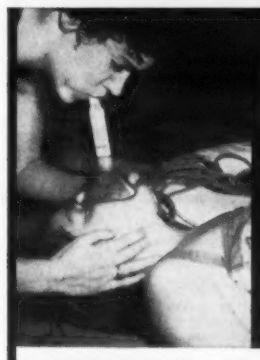
▲ For more details circle NED-763 D1 on enclosed inquiry slip ▲

SPEED REDUCER
ratios range up to 100-to-1



Speed ratios from 5 4/5:1 up to 100:1 are available in the Type 2 5/8A fractional horsepower speed reducer. Inputs range from 1/4 to 2 hp at 1800 rpm, and 1/6 to 1½ hp at 1200 rpm. The right angle drive, horizontal worm gear unit is built for continuous duty in conveyors, agitators, stokers, sprayers, and other equipment. Fully enclosed, and suited for mounting in any position, the reversible reducer may be furnished with input or output shafts projecting from either or both sides of the semisteel housing. Ball bearing equipped unit has case hardened and ground alloy steel worm integral with the shaft, nickel bronze worm wheel with heat treated alloy steel shaft, and semisteel base with large oil reservoir. • **Abart Gear & Machine Co.**, Dept. ND-5, 4834 W. 16th St., Chicago 50, Ill.

▲ For more details circle NED-764 D1 on enclosed inquiry slip ▲



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- suffocation
- strangulation
- electric shock
- shock or stroke
- drug intoxication
- head or chest injury
- respiratory paralysis
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- heart attack
- carbon monoxide poisoning

There's a WALL-PAK with a transparent plastic front for wall mounting. And a handy POCKET-PAK suitable for your pocket, medicine cabinet or emergency kit. New bulletin describes full operating details. Write today for a free copy.

MSA MINE SAFETY APPLIANCES COMPANY
Pittsburgh 8, Pennsylvania

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Measure PRESSURE, VACUUM and FLOW with UNFAILING ACCURACY — at MINIMUM COST

King Manometers are rugged, low-cost instruments for measuring pressure, vacuum, differential pressure and related phenomena with the *inherent basic accuracy* of a *U-tube*. Types and sizes for every service, with wide choice of scales, mountings, materials.

U-Type Manometers
Single Cleanout (shown at left); Double Cleanout; with 3-Valve Manifold; Inverted—6" to 130" range.

Well-Type Manometers
Low-Well (shown at right); Raised-Well; Adjustable-Well — 6" to 130" range; Instrument Test (8-scale); Barometric; Flowmeter; Inclined-Tube; Draft Gages.

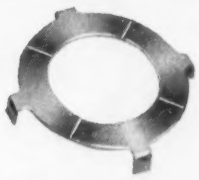
Multi-Tube Manometers
With individual wells in fixed position (2 to 20 tubes); with common wells, fixed or adjustable (5 to 20 tubes); Photo-Manometers (2 to 100 tubes) — to 130" range or greater.

KING MANOMETER CATALOG explains basic principles; simplifies manometer selection; includes indicating liquids and accessories. May we send you a copy?

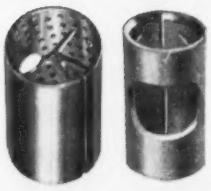
KING ENGINEERING CORP.
3223 S. State St. Ann Arbor, Mich.
LIQUID LEVEL GAGES, MANOMETERS, ACCESSORIES—SINCE 1937

▲ For more details circle NED-766 D1 on enclosed inquiry slip ▲

PRECISION THRUST WASHERS



FORMED BUSHINGS



...economy and precision in almost endless variety!

Precision Thrust Washers: solid bronze, or bronze-on-steel, one or both faces. Flat, spherical or special shapes. Keyways, tabs, coined oil grooves, any design.

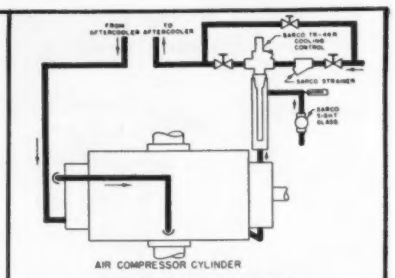
Formed Bushings: solid bronze, steel or aluminum; or bimetal, steel and bronze, babbitt, copper or aluminum. Oil holes, slots, grooves, whatever your design calls for. Straight, lock or special seams.

For design guide catalogs on both, or for engineering assistance, write Federal-Mogul Division, Federal-Mogul-Bower Bearings, Inc., 11079 Shoemaker, Detroit 13, Mich.

FEDERAL-MOGUL sleeve bearings bushings spheres thrust washers DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC.

▲ For more details circle NED-767 D1 on enclosed inquiry slip ▲

Sarco Self-Powered Cooling Control



Typical Applications

Compressors, small engines, oil coolers, water cooled rolls, dry cleaning stills, condensers, ball grinding mills, etc.

COOLING CONTROL

protects equipment and product quality

Trying to control cooling by the hit-or-miss manual method is a pretty hopeless task. It's uncertain, sometimes dangerous . . . always costly. Wastes water.

In product processing, manual cooling control results in variable product quality, heavy rejects, production slowdowns. 3944

You can end these problems with always-reliable Sarco SELF-POWERED Cooling Controls.

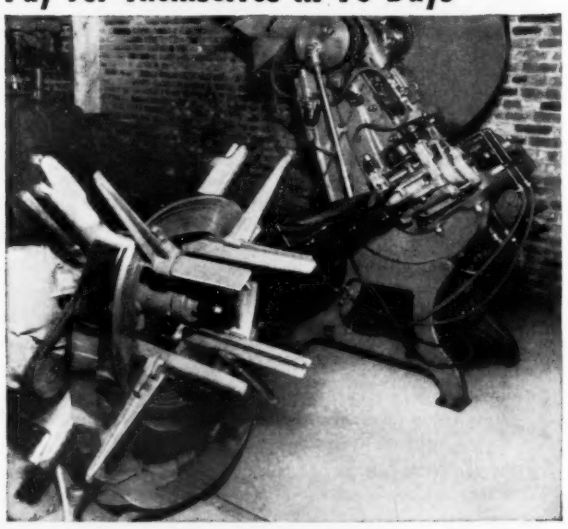
Inexpensive. Simple. Requires no outside power source. Packless. Easy to install by any pipefitter. For more information, write to Sarco Co., Inc., 635 Madison Ave., New York 22, N. Y.

SARCO — SARCO COMPANY, INC. 635 MADISON AVE., NEW YORK 22, N. Y. PLANT: BETHLEHEM, PA.

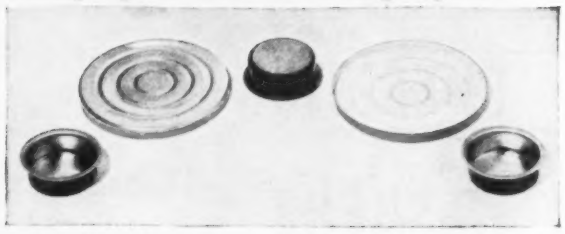
For more details circle NED-768 D1 on enclosed inquiry slip

LITTELL

Reel and Roll Feed Pay For Themselves in 90 Days



Increasing Output of these Stampings 300% on a single press



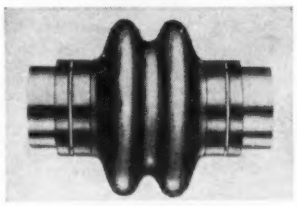
ACME Metal Cap and Closure Company of Brooklyn equipped a standard OBI press with a Littell Style M Roll Feed to replace hand feeding with automatic feeding. A Littell No. 10 Motor Driven Reel was also installed to maintain a continuing controlled flow of stock from coil to feed to die area. The result? An immediate 300% increase in press output. Acme's savings on this increased production rate paid for the Littell Feed and Reel in 90 days! Customers get better service, too.

Colly Says: "Acme's experience is one more example of the profitable stamping Littell equipment brings. Get the facts in these catalogs." Series "A" for Feeds Series "D" for Reels

F. J. LITTELL MACHINE CO. 4169 Ravenswood Ave., Chicago 13, Ill.

For more details circle NED-769 D1 on enclosed inquiry slip

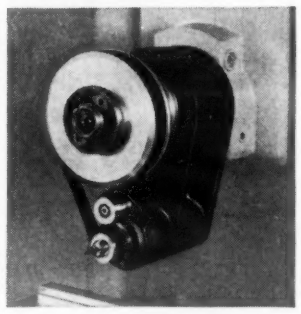
BOOTED UNIVERSAL JOINTS
neoprene covers are grease packed



Oil-resistant neoprene covers or boots protect line of universal joints from dust and dirt. Boots can be prepacked with grease and are held in place by snap wires. They in no way affect performance of the joint, allowing operation through a 40-degree working angle. Standard duty joints are available in 3/8 to 2½-in. OD with static torques from 220 to 30,000 lb-in., horsepowers from 0.35 to 120, and speeds to 1500 rpm. Same size heavy-duty units are rated 540 to 48,000 lb-in., 0.86 to 230 hp, and 1750 rpm. Boot diameter depends on joint size and ranges from 1¼ to 5½ in. • **Lovejoy Flexible Coupling Co.,** 4891 W. Lake St., Chicago 44, Ill.

For more details circle NED-770 D1 on enclosed inquiry slip

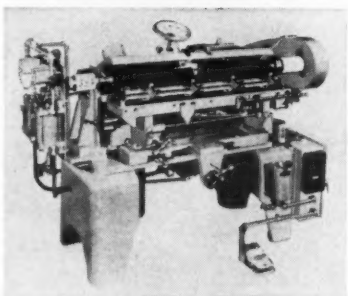
SURFACE GRINDER ATTACHMENT
for use on hard-to-reach areas



Speed of 17,000 rpm is delivered by the Diamond Speedgrind attachment with a 3600-rpm drive spindle speed. The compact unit, designed for use on hard-to-reach areas where high precision surface grinding is desired, is available in models to fit most surface grinders. Slipless belt tension adjustment eliminates strain on the four lifetime lubricated precision ball bearings. Unit has a cast alloy body and a choice of 3/32, ⅛, 3/16, or ¼-in. collets or a mandrel for ¼ or ⅜-in. unmounted wheels. Recommended wheel diameters are 3/32 to 1½ in. Special size and length mandrels are available. Price of $295 includes steel storage case and choice of collet or mandrel. • **Speedline Sales Co.,** 12860 Fisk Ave., Warren, Mich.

For more details circle NED-771 D1 on enclosed inquiry slip

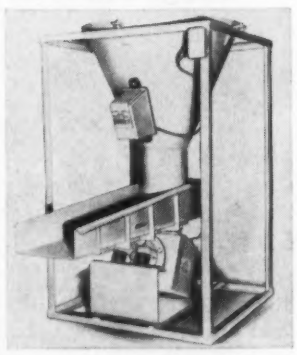
SURFACE FINISHING MACHINE
batch-finishes small shapes



Many small and intricate shapes, such as industrial jewelry, decorative hardware, handtools, and tableware, can be batch finished mechanically on the Model 405 table-type surface finishing machine. Smaller than the earlier Model 303, the 404 has a more flexible design, with reversible roll as small as 1¾-in. diameter and table actuations adjustable to high frequencies. Sensitive contact pressure is automatically variable over any predetermined increment of coverage. • **Clair Mfg. Co.,** 1002 S. Union St., Olean, N. Y.

For more details circle NED-772 D1 on enclosed inquiry slip

DRY MATERIAL FEEDER
for batching, packaging, bagging



Combination Hi-Vi Volumatic feeder - hopper - vibrator delivers precisely measured quantities of dry bulk materials. It is designed for use in small batching, packaging, and bagging operations, with weigh scales or where additive feeding is performed continuously or intermittently. A built-in hopper with attached vibrator and vibratory feeder are provided in the compact, enclosed, one-piece machine. Controls and dual vibratory action make possible measured discharge rates and instant starting and stopping. Frame or remotely mounted variable transformer type alternating current control can have dual settings for rapid or dribble feed rates. Timers for various timed or intermittent feeding phases are also available. • **Eriez Mfg. Co.,** 1945 Grove Dr., Erie 6, Pa.

For more details circle NED-773 D1 on enclosed inquiry slip

Bin Stuck Lately?

Here's quality and economy in two popular Cleveland Air Vibrators . . . Model F and Model KO.

Easily demountable, these vibrators speed the flow of dry materials in bins and hoppers —give users continuous, trouble-free performance.

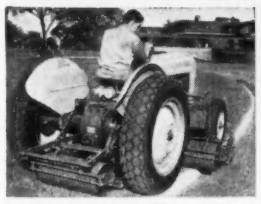
Send now for complete application information and performance data.

THE CLEVELAND VIBRATOR CO.

2744 Clinton Ave. • CLEVELAND 13, OHIO

For more details circle NED-774 D1 on enclosed inquiry slip

There's a ROSEMAN GANG MOWER for EVERY MOWING NEED!



3 gang lift-type model for Schools, Parks, Institutions, Industrial Plants. Cuts a full 7 foot swath. Lifts to cross curbs and for transport.

5 gang Hollow-Roller Drive model. Develop smooth, beautiful turf as you mow. Used wherever championship turf is desired.

9 gang 21 foot Airfield and Hi-cut models for large acreage mowing.

Complete selection of models available to mow parks, schools, golf courses, estates, institutional and industrial lawns, recreational areas and airfields fast, efficiently and at lowest possible cost.

Rosemans can mow a given area up to 6 times faster and at less cost than other type mowers.

Roseman Hollow Roller models, used on Tam O'Shanter and other outstanding golf courses, develop smooth, beautiful turf areas of Championship caliber.

Roseman quality and non-breakable construction assure years of faithful, trouble-free service.

Roseman Mowers with labor saving and trimming features pay for themselves out of savings.

Use Roseman Gang Mowers on your turf . . . by every standard of performance, quality and finished cut . . . the finest.

Write for complete details and descriptive literature today.

Available in 1, 3, 5, 7 & 9 gang sizes. Cutting Widths from 30" to 21'. Choice of roller, pneumatic or laminated tire drives.

HOLLOW ROLLER — ROSEMAN MOWER CORPORATION EVANSTON, ILLINOIS, U.S.A. NATION-WIDE SALES and SERVICE

For more details circle NED-775 D1 on enclosed inquiry slip

NEW from Metron

A LIGHT BUT RUGGED HAND TACHOMETER

Here are the features you asked for in Metron's new TRIPLETACH:

CONSTANT ACCURACY—± 1% full scale
THREE RANGES—changed with a flick of the switch
FOOL-PROOF READINGS—only the scale in use is visible
COMPACT SIZE—3½"x5⅝"x2½"; fits your toolbox
LIGHTWEIGHT—only 24 oz.
HANDY CASE—carry all accessories with you
VERSATILE—reads directly: shaft speeds in RPM; belt speeds in ft./min. or in./min.
ONE ROTATING PART—ball bearing-mounted; permanently lubricated.
Send today for Bulletin 103A and ordering information. Delivery: one week.

Metron — METRON INSTRUMENT CO. 432 Lincoln • Denver 3, Colo. • PE 3-3764 TWX: DN 194

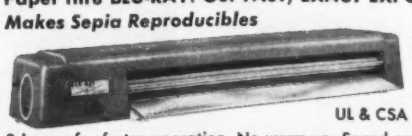
For more details circle NED-776 D1 on enclosed inquiry slip

NEW BLU-RAY Whiteprinter offers 50% MORE SPEED!

MAKES CLEAR DIAZO PRINTS IN SECONDS FOR PENNIES!

Copies anything printed, typed, drawn or written on any translucent material. Just slide Tracing and Diazo Paper thru BLU-RAY. Get FAST, EXACT EXPOSURE.

Makes Sepia Reproducibles



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3 Lamps for faster operation. No warm-up. Speed control for exact exposure. 3 Models: 14", 27", 42" print width capacities: any length. Portable.

Thousands of Guaranteed BLU-RAYS in use not because they're the cheapest, but because they're the best, most reliable dollar value. Get a demonstration and see for yourself.

AVAILABLE ON LOW COST MONTHLY LEASE PLAN

NOW BLU-RAY OFFERS 2 DIAZO DEVELOPERS

1. NEW FLUTED SEE-THRU AMMONIA DEVELOPER TUBE. FROM $11.55

2. NEW CONTINUOUS ROTARY DRY DEVELOPER FOR FASTER DEVELOPING. For use with BLU-RAY and other Rotary Diazo Whiteprinters. 3 Models from $129.50

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BLU-RAY by R.E.C. Reproduction Engineering Corporation 7 Westbrook Road, Essex, Connecticut

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EXTERNAL HONES

SAVE MANY HOURS IN YOUR TOOL ROOM OR MACHINE SHOP

These inexpensive hand tools produce exact size, mating fit or surface finish on O.D.'s of...

Plug Gages	Spindles	Leader Pins
Shafts	Pistons	Ejector Pins
Arbors	Plungers	Many Others

Sunnen External Hones are guaranteed to produce geometrically accurate parts to "split-tenths" with surface finish as low as 2 micro-inches.

They correct all errors of straightness and roundness, such as waviness, centerless grind chatter, bow and taper. Invaluable wherever finish and precision are desired in production, job lot, or tool room work.

Hones have micrometer feed-up to assure controlled stock removal. They combine the speed of honing with the precision of lapping. Parts to be honed can be driven by lathe or SUNNEN Honing Machine.

AVAILABLE IN 4 COMPLETE SETS, READY TO USE:

FA-1 range 1/8" to 13/32" dia.
FB-2 range 13/32" to 13/16" dia.
FC-3 range 13/16" to 1½" dia.
FD-4 range 1½" to 2¾" dia.

WRITE FOR FREE BOOKLET!

Find out how SUNNEN EXTERNAL HONES can help you in your everyday shop work. 7899

SUNNEN® PRODUCTS COMPANY HONING

7933 Manchester Ave. • St. Louis 17, Mo.
Canadian Factory: Chatham, Ontario

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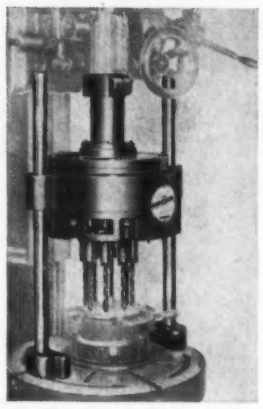
MULTISPINDLE DRILL HEAD
mounts on standard drill presses



Actually of fixed-center type, Adjustafix multiple spindle drill head can be changed easily to different hole patterns. It is installed on standard or special machines and adapts them for multispindle drilling, tapping, reaming, spotfacing, boring, counterboring, and milling operations. Only the pattern plate is changed, and the spindles and idlers are relocated without changing the gearing. The super-finish spindles have full ball bearings, and gears are shaved, hardened, and mounted on involute spline shafts. • **United States Drill Head Co.**, 5298 River Rd., Cincinnati 33, Ohio.

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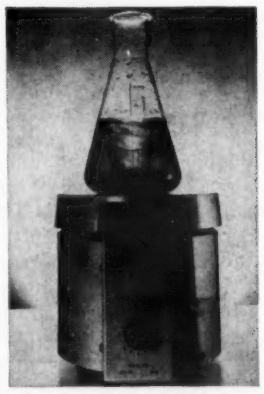
FLOW CONTROL VALVE
maximum rating is 10,000 psi

Coarse or fine adjustments are easily made by fingertip control of the Co-Axial metering flow control valve. A dual purpose unit which eliminates the need for a by-pass valve in conjunction with a discharge flow control valve and extra plumbing, it provides fine metering of air, gas, or liquids under low or high pressure in one body. Rotating the bottom large diameter control knob operates the valve conventionally, and rotating the top small diameter knob allows additional fluid to pass. Sizes range from 1/4 to 1 1/4-in. NPT, and maximum operating pressure is 10,000 psi. • **Kell-Strom Tool Co.**, 214 Church St., Wethersfield, Conn.

▲ For more details circle NED-780 D1 on enclosed inquiry slip ▲

STIRRER-HOT PLATE
has 550-w heating elements



Mixing or blending, accelerating chemical reactions, heating, and stirring can be performed with the Gyratherm Junior magnetic stirrer-hot plate. Rheostat control of both heating and stirring functions is provided. The 6½-in. high unit has a 6-in. diameter hot plate with embedded 550-w heating elements. Graduated controls are on the vertical front control panel. Equipment is both shock and chemical resistant. • **Will Corp.**, Box 1050, Rochester 3, N. Y.

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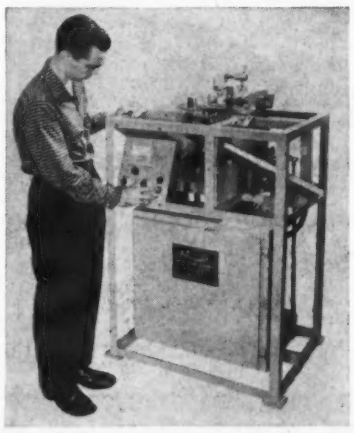
ELECTRONIC WEIGHT COMPARATOR
accepts, rejects parts by weight



Used in processing or production, this automatic electronic weight comparator handles a continuously moving stream of parts or materials, accepting or rejecting them on a weight basis. It rapidly weighs each item individually, comparing this weight to within ±1 gram of a predetermined set weight. System handles items weighing up to 5 lb. Typical uses include handling and weighing metal billets and slugs to determine the proper volume of metal for extrusion, and inspection of ball bearing assemblies by weight to determine their completeness. Components, relays, and other working parts are built for billions of sequences. • **Atronic Products, Inc.**, Union Hill, West Conshohocken, Pa.

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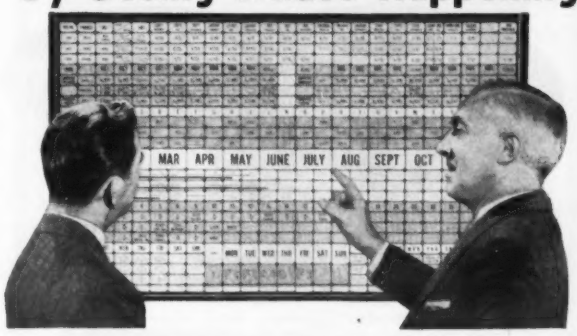
You Get Things Done Better By Seeing What's Happening



BOARDMASTER VISUAL CONTROL

★ Gives Graphic Picture of Your Operations in Color.
★ Facts at a Glance - Saves Time and Prevents Errors.
★ A Simple, Flexible Tool-Easily Adapted to Your Needs.
★ Easy to Use. Type or Write on Cards, Snap on Board.
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★ Compact, Attractive. Made of Metal. 500,000 in Use.

Complete Price $49.50 Including Cards

FREE 24-Page ILLUSTRATED BOOKLET N-400 Without Obligation

GRAPHIC SYSTEMS, Yanceyville, North Carolina

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Lintern

Safety and Signal Lanterns

Alert your personnel quickly, clearly with these big, easy-to-see Glowlites and Traffic Signals. Various other models. Available in single units or assemblies.

Write for FREE literature.

Larco, inc. Distributor of Lintern Corporation Products Route 20 East, Painesville, Ohio

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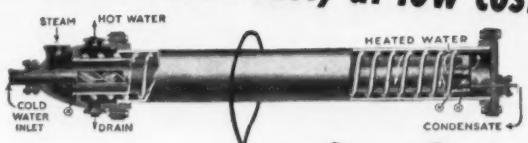
STEAMLINED! to heat water fast, at low cost



In the Johnson Heater, water to be heated is routed first inside, then outside, a blanket of live steam. It's full pressure steam, too; up to 150 lbs., or 250 lbs. in heavy duty types, no reducers are needed. The result: faster, more efficient heat transfer for a unit of its size. No wonder industry has found so many applications for the Johnson "Instant" Heater, in heating water and process liquids of various types.

JOHNSON "Instant" HEATER

Sizes for all needs; write for literature

The Johnson Corporation
812 Wood St., Three Rivers, Mich.

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GREATER GRINDING EFFICIENCY ... LOWER "PER UNIT" COSTS

ALPHA
GRINDING WHEELS

Designed for fast action wherever quick metal removal is required. Their longer cutting life means more metal removed per disc wheel — reducing "per unit" production costs. And, because of this more efficient cutting action, Alpha disc wheels do not cause operator fatigue.

Made from abrasive grain and resinoid bond, Alpha disc wheels are strong and durable. Triple reinforcement provides greater safety while in operation.

Alpha grinding disc wheels are manufactured in 7 and 9 inch diameters in a complete range of grain sizes from 14 to 120.

Write today for full information.

Atlantic Abrasive Corp.
A DIVISION OF ABRASIVE PRODUCTS, INC.
South Braintree 85, Massachusetts

STRAIGHT WHEELS • CYLINDER WHEELS • CUP WHEELS
CONES • PLUGS • MOUNTED WHEELS AND POINTS

For more details circle NED-786 D1 on enclosed inquiry slip

NEW ALSOP
Portable Air Motor MIXERS

- Explosion Proof
- Cannot Burn Out
- Light Weight – Safe

Try a new Alsop Portable AIR Motor Mixer, 1/8 thru 1 H. P. for most liquids from low to medium viscosity. Used safely with flammables, acids or in explosion proof atmospheres. Compressed air operation eliminates dangerous sparking. Ruggedly constructed for batch mixing. Only 1/3 as heavy as equal capacity mixers. Shaft and propeller available in carbon steel, stainless, special alloys and coatings. Standard units 500 and 1800 RPM. Variable speed operation available.

Write today for FREE Catalog

ALSOP ENGINEERING CORPORATION
NEW STREET, MILLDALE, CONN.

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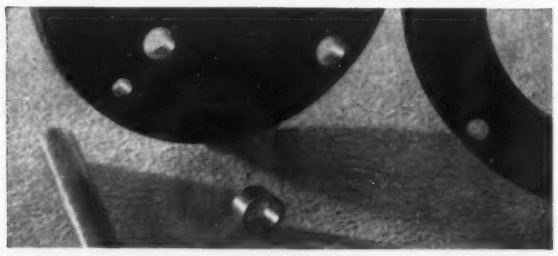
MOSINEE MAKES MAGIC WITH PAPER



For quality laminates ...
Mosinee Saturating and Impregnating Papers

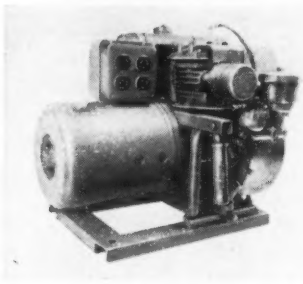
FREE
- These Mosinee papers give you precision control over quantity and rate of resin absorption.
- Mosinee saturating papers are made to your specifications.
- You'll get the exact penetration rate, degree of saturation, and resin pickup you desire.
- Apparent density as reflected by basis weight and caliper will be precisely as you have ordered.
- Quality will be uniform from roll to roll . . . from carload to carload . . . as long as you order.

DATA FILE plus a "PAPER TERMS" DICTIONARY

MOSINEE
PAPER MILLS COMPANY
Mosinee, Wisconsin Write Dept. NED-4.

For more details circle NED-788 D1 on enclosed inquiry slip

ELECTRIC POWER PLANTS
emergency types rated 800-3000 w



Line of compact, lightweight, 110-v ac, electric power generators adapts to various field and emergency uses. Weighing as little as 58 lb, these Trailite units are rated from 800 to 3000 w. In case of disaster, units provide an uninterrupted flow of ac current to keep heating plants, refrigerators, lights, and vital equipment in operation. Model shown is equipped with a two-man carrying handle. Generator is a two-pole self-excited unit connected direct to engine. • **Thiel Industries, Inc.**, N. Third & W. Fowler Streets, Milwaukee 3, Wis.

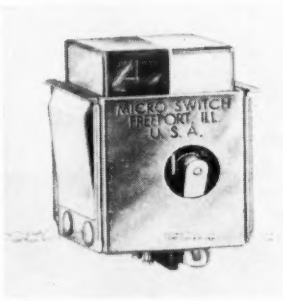
For more details circle NED-789 D1 on enclosed inquiry slip

CAPACITOR TESTER
also checks electrical circuits

Operating on 115-v ac or dc, this Cappy capacitor tester will check for leaks, grounds, shorts, and open circuits. It is also suited for testing line voltages, continuity, fuses, motor windings, and appliances. This compact instrument easily fits in a pocket. • **Watsco, Inc.**, Dept. P61, 1020 E. 15th St., Hialeah, Fla.

For more details circle NED-790 D1 on enclosed inquiry slip

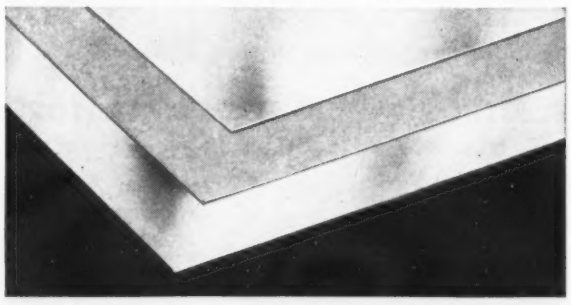
LIGHTED PUSHBUTTON SWITCH
smaller than a 1-in. cube



Miniature lighted pushbutton switch with single or two-color identification measures less than a 1-in. cube. Each half of a divided display screen has its own replaceable light source. With five colors available, a single switch can have any one of 15 color combinations. Unit contains two single-pole double-throw subminiature switch elements rated 7 amp resistive and 25 amp maximum inrush at 24 v dc; 15 amp inrush at 115/230 v ac. Held with spring clips, switch is designed for control equipment, computers, and for industrial visual control indication. Price is $16. • **Minneapolis-Honeywell Regulator Co.**, Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

For more details circle NED-791 D1 on enclosed inquiry slip

MOSINEE MAKES MAGIC WITH PAPER



Mosinee Steel Interleaving Papers

FREE
- Chemically neutral.
- Exceptionally clean.
- No dirt or fiber fall-out.
- Excellent formation.
- Uniform quality—roll to roll...carload to carload.

DATA FILE plus a "PAPER TERMS" DICTIONARY

MOSINEE
PAPER MILLS COMPANY
Mosinee, Wisconsin Write Dept. NED-4.

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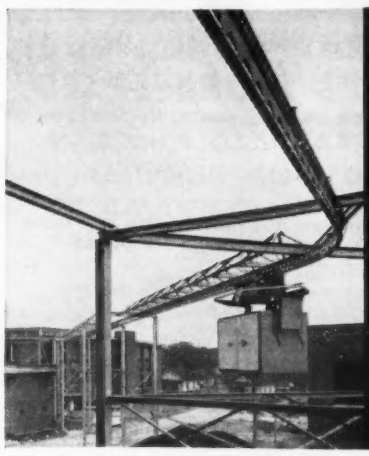


SAVES $7000 PER YEAR with AUTOMATIC TRAMRAIL SYSTEM

An enclosed freight carrier shuttling over a 666-foot Cleveland Tramrail track between two buildings is saving $7000 per year. The system has eliminated a drudgery disliked by labor and costly to management. No more manual pushing of heavy loads. No longer is work held up because of inclement weather. Handling accidents are done away with. Automatic Tramrail offers big dividends on your investment.

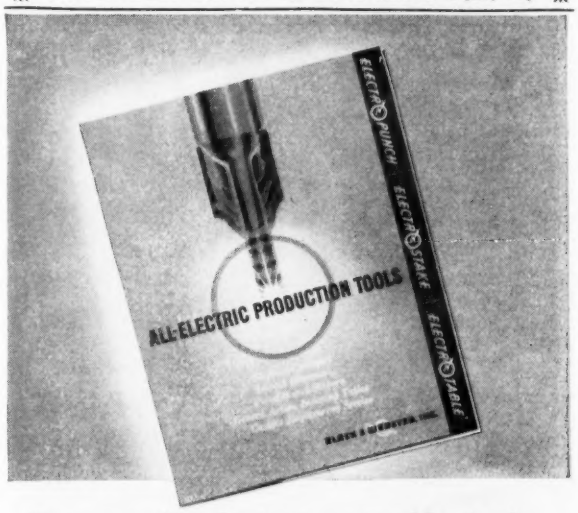
GET THIS BOOK! BOOK No. 2008 Packed with valuable information...

CLEVELAND TRAMRAIL ENGINEERING AND APPLICATION DATA BOOK 2008

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6650 East 285th St., Wickliffe, O.

CLEVELAND TRAMRAIL

For more details circle NED-793 D1 on enclosed inquiry slip



Here are the fastest assembly tools in their class . . . introduced to you in this FREE catalog.

If you want to speed up production and cut costs in a wide variety of assembly operations requiring staking, crimping, swaging, riveting, peening as well as marking and punching, write for this new, complete Black & Webster catalog, describing the most modern, fastest all-electric assembly tools in their class. Write:

BLACK & WEBSTER, INC.
570 PLEASANT ST., DEPT. 1, WATERTOWN 72, MASS.

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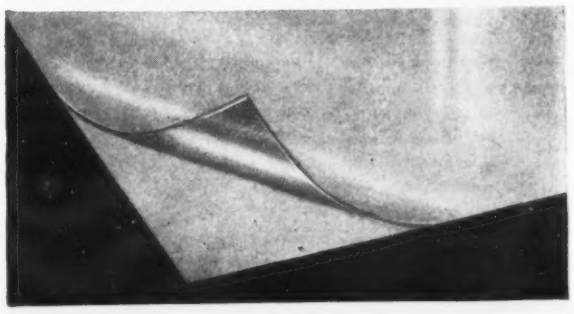
MOSINEE MAKES MAGIC WITH PAPER



Laminating and coating papers

FREE
- Developed to your requirements for performance under conditions of moisture, mold, fire, low temperatures, etc.
- Ideal for laminating with foil, glassines, films, etc. . . . for coating with waxes, plastics, resins, organosols, plastisols.
- Uniformly hard, sound rolls without soft spots or corrugations. Free from shives, other imperfections.
- Basis weight and caliper across the sheet plus other specific characteristics will be uniform from roll to roll . . . from carload to carload.

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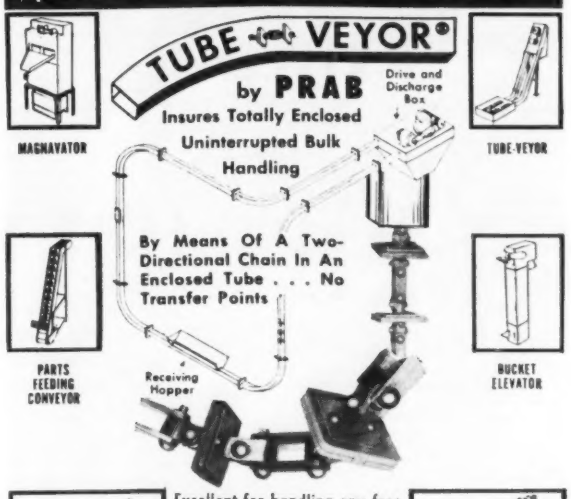
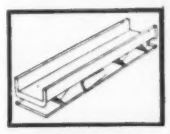
For more details circle NED-795 D1 on enclosed inquiry slip

PRAB PRECISION ENGINEERED
Specialized CONVEYING EQUIPMENT




VIBRATING CONVEYOR

Excellent for handling any free flowing materials: Chips, sludge, sand, flour, shot, coal, etc. . . . can be moved most efficiently with TUBE-VEYOR.

STEEL BELT CONVEYOR

SEND FOR CATALOG #600
Representatives in Principal Cities

PRAB CONVEYORS, INC. PRAB Products Mfd. under Pats.
30119 GROESBECK HWY ROSEVILLE (Detroit), MICH

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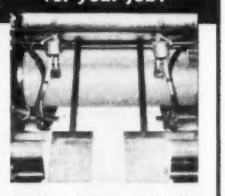
GPE Controls
WEB and STRIP GUIDES
Save TIME...MONEY...MATERIAL!

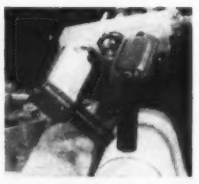
Send for NEW Catalog EG-84

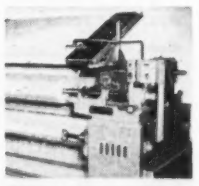
Photos and diagrams representing thousands of installations; complete details on world's broadest line of web and strip guides.

- Laminate without trim!
- Speed up presses while you keep accurate side register!
- Slit without side trim!
- High-speed textile tentering with minimum selvage.
- Track conveyor belts, abrasive belts, etc., up to 5,000 feet per minute.
- Winds 100-ton steel coils evenly to protect edges.
- Web edge position, porosity, opacity, or reflectance sensed by air or photoelectric heads.
- Non-clog air sensing head (patented) never touches web, works perfectly with linty, dusty, or abrasive webs.
- Hydraulic actuation for unlimited power and speed, high frequency response.
- Engineered by specialists in industrial automatic controls.

43 MODELS
...one just right for your job!


Medium-duty model with air sensing, positioning knives on rubber calender.


Photoelectric reflected light head following line on printed carton stock to eliminate slitting.


Light-duty unit with air sensing, applied to textile machinery.

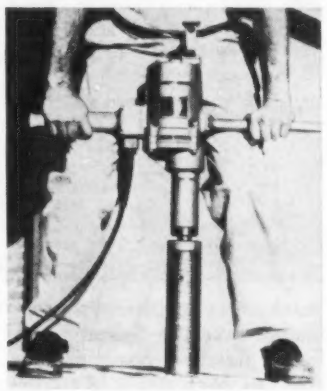
GPE Controls, Inc.
258 E. Ontario St., Chicago 11, Ill.

GPE Controls — A GENERAL PRECISION COMPANY — formerly Askania Regulator Company

A subsidiary of General Precision Equipment Corporation

▲ For more details circle NED-797 D1 on enclosed inquiry slip ▲

IMPACT CORE DRILL
can make 6-in. diameter holes



Rotating at 1200 rpm and simultaneously delivering 7200 impacts per minute, the Roto-Imp JL-200 portable rotary impact drill is waterless in operation. It causes no fracture damage to surrounding areas when core drilling in brick, cement pipe, cement block, or concrete. It cuts $1\frac{1}{8}$ to 6-in. diameter holes in concrete and "bites through" $\frac{3}{8}$ to $\frac{3}{4}$-in. diameter reinforcement bar. The 30-lb tool requires less than 20-lb added pressure by the operator. It has a $1\frac{1}{2}$-hp motor and heavy duty gear train for continuous use. Operation is on 115 v ac-dc. • **Bill Jack Scientific Instrument Co.**, Tool Div., Dept. G-7, Solana Beach, Calif.

▲ For more details circle NED-798 D1 on enclosed inquiry slip ▲

ALUMINUM BOTTLES
made in 28 stock sizes and shapes

Packaging, shipping, and storing of chemicals, minerals, foods, and other products are applications for these seamless aluminum bottles. They are made of heavy gage 1100(2S) aluminum with a commercial caustic etch finish. Chromic or sulfuric anodizing is optional. Twenty-eight stock sizes and shapes are available. Openings include tapered to fit standard cork sizes and threaded to glass container specifications. • **American Aluminum Co.**, 230 Sheffield St., Mountainside, N. J.

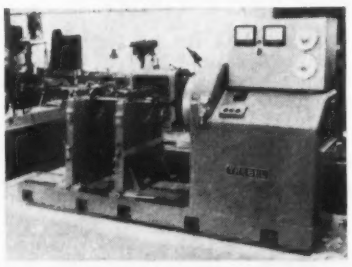
▲ For more details circle NED-799 D1 on enclosed inquiry slip ▲

TAPE CODER
attaches to electric tape dispenser

With a 1-C tape coder attached to a Marsh electric Dial-Taper tape dispenser, one operator can print and dispense gummed kraft or reinforced tape at the same time. Attachment prints code marks, numbers, dates, and trade marks as the tape comes from the machine at 3 fps. As operator dials the length of tape, machine prints the tape, measures it accurately, cuts off the correct length, and applies warm water to the gummed side. Coder attaches to any Marsh Dial-Taper or Twin-Taper in 1 min. • **Marsh Stencil Machine Co.**, Belleville 5, Ill.

▲ For more details circle NED-800 D1 on enclosed inquiry slip ▲

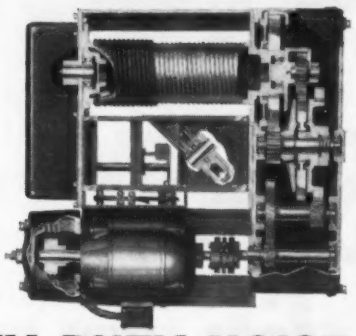
AUTOMATIC BALANCER
locates part unbalance instantly



Unbalance in a rotating element is indicated and angularly located immediately by the imported Trebel Model F automatic balancer. Centrifugal forces which rotating workpiece exerts due to unbalance are measured directly by pressure-sensitive transducer. Indication is in ounces at any preselected correction radius. Suitable for production runs, unit can be operated by unskilled personnel. An optional automatic programmer will run the machine through its entire measuring cycle at a push of the starter button. Left and right amount readings, as well as left and right angle readings remain recorded until the next cycle is begun. • **Kurt Orban Co.**, American Trebel Div., 87 Greenwich Ave., Greenwich, Conn.

▲ For more details circle NED-801 D1 on enclosed inquiry slip ▲

full magnetic control
R&M HOISTS/CRANES
welded steel frame
magnetic disc-type motor brake
30 min. motor



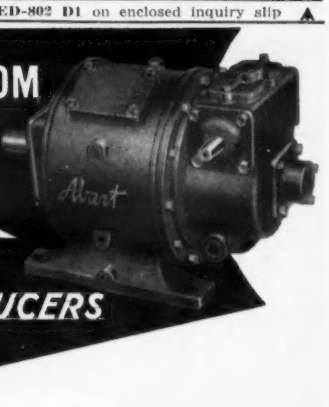
HEAVY DUTY HOIST

CAPACITIES: ½ to 10 tons—Type F hoists, in four frame sizes, give you low headroom clearance plus rugged simplicity for demanding service. All-steel frame is welded for rigidity. R&M 1½ to 12½ hp motors have the highest time rating found in any standard hoist—30 min., 55° C. Load brake, three reductions of machined alloy steel heat treated gears and anti-friction bearings operate in splash oil bath. Motor brake is magnetic disc-type. Fully magnetic control features reduced push-button voltage. Wide choice of speeds and lifts. Plain, hand geared or motorized trolleys, or lug mounting. Request Bulletin 801-C today. **Robbins & Myers, Inc., Hoist & Crane Division, Springfield, Ohio.**

ROBBINS & MYERS
hoists, cranes, Moyno® pumps, motors, Propellair® fans

▲ For more details circle NED-802 D1 on enclosed inquiry slip ▲

CHOOSE FROM 75 TYPES AND SIZES



Abart SPEED REDUCERS

Compact, economical, trouble-free Abart power packages fill any speed reduction need. Any desired shaft arrangement—worm, spur or combination models—fractional to over 400 hp. ratings—single or double reduction—ratios to 10,000 to 1.

Send now for Abart pocket-size engineering data book and catalog.

FREE data-packed 96 page pocket-size catalog

ABART GEAR and MACHINE CO.
4831 WEST 16th STREET • CHICAGO 50, ILLINOIS

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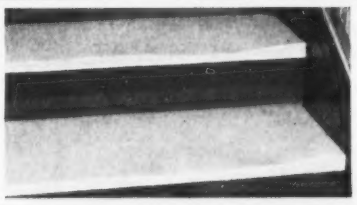
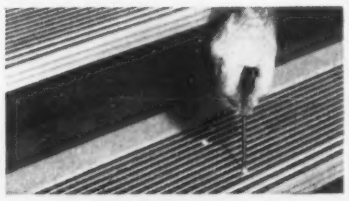


Stairways worn and dangerous?

Make them Safe this Easy and Practical way



The architecturally approved method of making worn dangerous stairs safe and modern. HEAVY DUTY ALUMINUM STAIRMASTER SAFETY TREADS can be superimposed over any type of steps. Diamond hard abrasive filled ribs provide positive anti-slip protection even under wet or oily conditions. Permanent installation ends makeshift repairs. Easily installed. All treads covered by manufacturer's warranty bond.

SEND FOR FREE NEW BULLETIN ON HOW TO REPAIR STAIRS

WOOSTER PRODUCTS INC. Spruce St. WOOSTER, OHIO Dept. 16

Name_____
Company_____
Address_____
City_____ State_____

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REALLY TOUGH!

SPRAY 66 INDUSTRIAL SPRAY CLEANER AND DEGREASER

- NON-TOXIC
- NON-FLAMMABLE
- NON-CORROSIVE
- RUST-INHIBITING

SCIENTIFIC NEW ALL PURPOSE CLEANER

PECK'S PRODUCTS CO.

610 E. CLARENCE • ST. LOUIS 15, MISSOURI

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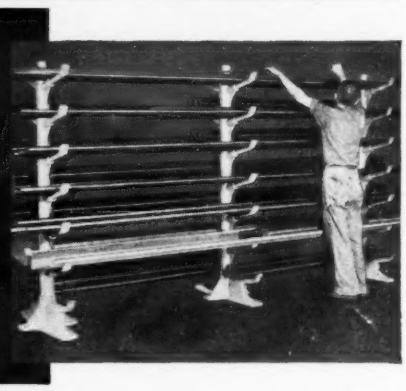
SAVE SPACE • SAVE TIME



Store and remove stock quickly—either by hand, fork truck or overhead crane—using the proved Brown Method for efficient storage. Brown Stock Racks, spaced as required, store more in less space . . . reduce handling from a long end haul to a short lateral movement. Stock is quickly visible for fast selection . . . easily accessible from the sides or ends.

Very low installation costs . . . all components are slip-fitted . . . no bolting or tools needed. Base brackets, trays and other accessories are available to increase usefulness. Both single arm wall racks and double arm racks are available.

Brown Engineering Co., 129 N. 3rd St., Reading, Pa.

■ Get complete data on Quick-Serve Racks. Write today for bulletin.

BROWN FLEXIBLE STOCK RACKS

For more details circle NED-806 D1 on enclosed inquiry slip

Electric Trucks REDUCE NOISE LEVELS

The quiet operation of battery-powered electric trucks eliminates distraction and annoyance to workers performing other production work. Also, quiet operation is an outstanding advantage when it is necessary to give verbal instructions to truck operators or to signal them by a dispatch system. Finally, quiet electric truck operation is a valuable safety factor.

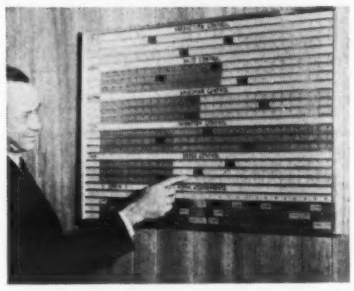
Electric truck users generally agree, too, on Gould Batteries for longer life. With the vital new Silconic Plate, Gould Batteries offer up to 25% longer life.

Write for booklet "Why We Use Battery-Electric Industrial Trucks." Gould-National Batteries, Inc., First National Bank Building, St. Paul 1, Minn. In Canada, write to Gould-National Batteries of Canada, Ltd., 1819 Yonge Street, Toronto, Ontario.

More Power to You from GOULD

For more details circle NED-807 D1 on enclosed inquiry slip

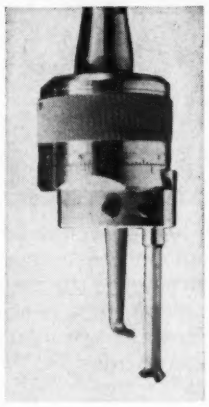
SCHEDULE BOARD
sizes up to 42 x 60 columns



Standard sizes for large industrial programs or small business and industrial operations are available in In-Sight-Trol visual - graphic schedule boards. They have aluminum frames and double aluminum tracks into which snap preprinted or typed cards and plastic overlays. Spaces are 1⅜ in. wide by 11/16 in. high. Standard board sizes range from 37 in. wide by 14½ in. high (25 x 15 columns) to 60 x 55½ in. (42 x 60 columns). Several boards can be used together for a maximum display area of 5 ft high by 12 ft wide. Special sizes up to 104 x 100 columns can be secured. Order control, personnel control, traffic, purchasing, scheduling, sales, inventory, production, and assembly operations are charted on the wall-hung boards. Blank and preprinted cards are offered in five colors. • **Game-time, Inc.**, Litchfield, Mich.

For more details circle NED-808 D1 on enclosed inquiry slip

MICROMETER BORING HEAD
vernier gives settings to 0.0001 in.



Made with ½, ¾, 1, and 1¼-in. cutting tools for diameters to 20 in., E-Z Set boring heads fit all types of spindle machine tools. These alloy, ground, hardened tools have a round adjusting collar which is geared to the lead screw with a 2-to-1 ratio. Collar is graduated with full 360-degree markings. Vernier permits adjustment of bore diameter within 0.0001 in. Each tool block has two end holes for cutters, one on and one off center, plus a through cross-hole. • **Maxwell Industries, Inc.**, 493 E. Fifth St., Ashtabula, Ohio.

For more details circle NED-809 D1 on enclosed inquiry slip

ELECTRIC FORK TRUCKS
2000, 2500, and 3000-lb capacities

Capacities of 2000, 2500, and 3000 lb at 24-in. load center are provided in JC Series of stand-up battery powered fork trucks. All three models afford a choice of standard or full free lift mast, two separate braking systems, and controlled - caster wide - tread steering axle. Drive and pump motors, hydraulic pump, travel and hoist contactors, valves, switches, and hydraulic connections are exposed by removal of a single cover plate. • **Mercury Mfg. Co.**, 4700 W. Division St., Chicago 51, Ill.

For more details circle NED-810 D1 on enclosed inquiry slip

AUTOMATIC EMERGENCY LIGHT
dry-cell unit gives 3¼ hr of light

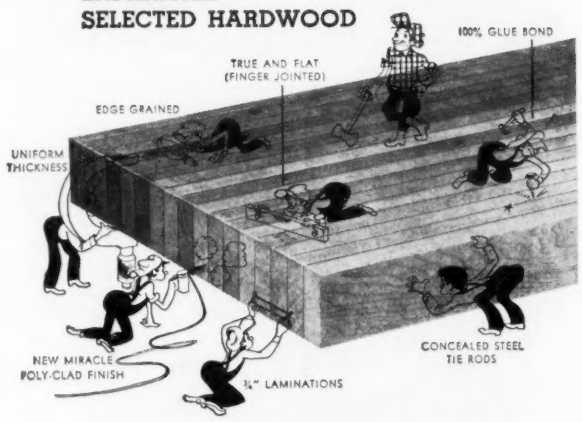
Powered by a 9-v dry-cell battery, Model D Lightguard emergency lighting unit operates instantly if normal power fails. It shuts itself off when power is restored. Unit gives up to 3¼ hr of emergency light with one lamp and 1½ hr of light with two lamps. The 25-w PAR 36 sealed beam lamp adjusts both vertically and horizontally and can be mounted on the unit case or connected remotely to light adjacent areas. Second lamp is optional. Sealed-in-steel dry-cell retains 85 per cent of its initial capacity after standby service of 1 yr. Voltage meter and test switch permit quick check of battery condition. • **Electric Storage Battery Co.**, Exide Industrial Marketing Div., Rising Sun & Adams Avenues, Philadelphia 20, Pa.

For more details circle NED-811 D1 on enclosed inquiry slip

For more details circle NED-812 D1 on enclosed inquiry slip

BENCH TOPS

LAMINATED SELECTED HARDWOOD



• Tolerton tops are available from 1¼" to 4" thick, in widths and lengths to meet any requirement. Maple or steel base units also available in wide variety of sizes and styles. Write for technical, descriptive brochure.

Established 1894

TOLCO THE TOLERTON COMPANY

265 N. Freedom Avenue • Alliance, Ohio

For more details circle NED-813 D1 on enclosed inquiry slip

INSTANT job changes with positive depth stops

Depth stop nuts and collars provide accurate stroke regulation. Stroke lengths available from 0" to 36". Solid steel column. Machine surfaced table accepts special tooling. Mounting brackets permit vertical and radial adjustment. Same stand serves single-acting and double-acting cylinders.

Double or single acting column presses

PRODUCTS FOR AUTOMATION

MEAD FLUID DYNAMICS

A DIVISION OF MEAD SPECIALTIES CO.
4114 N. Knox Ave., Dept. 1241, Chicago 41, Ill.

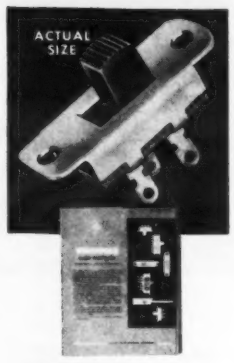
For more details circle NED-814 D1 on enclosed inquiry slip

6 AMP.

U. L. RATED

Slide Switch

Truly inexpensive . . . only 1⅜"l by 17/32"w . . . new Stackpole Type SS-36-1 handles a full 6-amps at 125 volts ac. Use it on appliances, power tools, instruments — wherever a heavy-duty SPDT or SPST switch is called for. 9 attractive trigger knob colors to match your styling needs.



The Most Complete Line

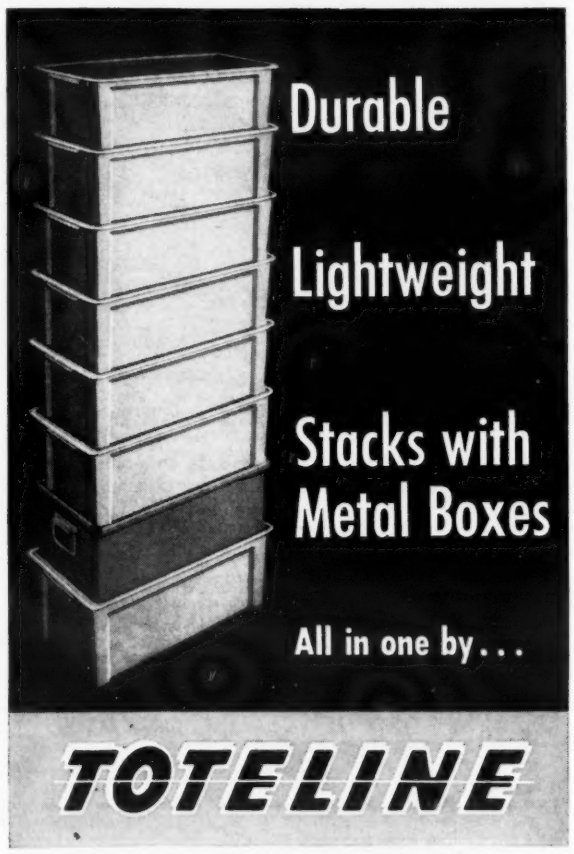
Dependable, low-cost Stackpole Slide Switches are made in over 15 basic types—0.5-6 amp ratings, 1-4 positions, 1-3 poles, maintained or momentary contact, pushbutton-operated, etc. Printed wiring terminals, shields, colored triggers optional.

NEW! SLIDE SWITCH BULLETIN contains details on the complete Stackpole line. Write today!

STACKPOLE

Electronic Components Division **STACKPOLE CARBON COMPANY,** *St. Marys, Pa.*

▲ For more details circle **NED-815 D1** on enclosed inquiry slip ▲



Now . . . a sturdy tote box of strong-as-steel molded fiber glass which stacks interchangeably with your present metal boxes of the popular 10 by 20 by 8-inch size.

You can benefit from the advantages of durable molded fiber glass immediately by introducing Toteline Model 538-1 into your present system. Then replace metal boxes with Toteline boxes as the metal boxes need replacement.

Toteline boxes last indefinitely without maintenance. They can't rust or leak . . . you can't dent them and they never need straightening. There are no sharp edges . . . just smoothly rounded corners.

Molded handles are a part of the integral, one-piece stacking lip. Steel wire, concealed within the edges of the box, adds strength and rigidity.

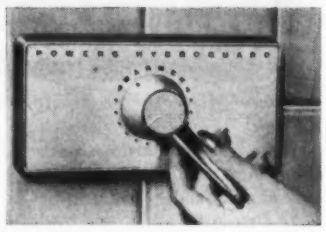
Also available are Toteline fabricated boxes made to your exact specifications in large or small quantities. These custom made boxes have panels of molded fiber glass, up to 3/16 inch thick. Top and bottom frames and corner angles are of strong galvanized steel or aluminum. Casters, hand holes, runners, lids, compartments . . . you name it, we'll make it.

MOLDED FIBER GLASS TRAY CO.
LINESVILLE, PA.

ONE OF THE MOLDED FIBER GLASS COMPANIES

▲ For more details circle **NED-816 D1** on enclosed inquiry slip ▲

SHOWER-TUB CONTROL
prevents bursts of hot or cold water



A sealed thermal element in the Hydroguard shower-tub control prevents delivery of water above 110° F, even if pointer handle is turned to maximum hot position. Unit prevents sudden bursts of hot or cold water regardless of the use of other plumbing fixtures. Failure of cold or hot water supply automatically shuts off delivery. Control can be installed with either concealed or exposed piping, and internal parts are accessible from the front by removing handle and dial. • **Powers Regulator Co.,** Dept. ND-5, 3400 Oakton St., Skokie, Ill.

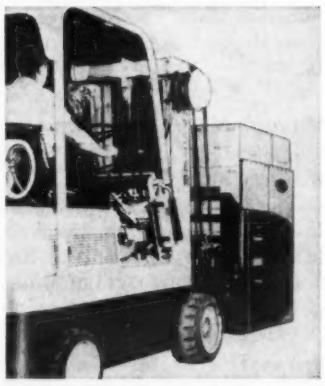
▲ For more details circle **NED-817 D1** on enclosed inquiry slip ▲

BOX STAYING MACHINE
for stock boxes, bins, tote trays

In-plant production of custom made, printed, and folding Metal Edge boxes is facilitated with the Fastayer corner staying machine. It also produces standard stock boxes, bins, tote trays, and hoppers. The self-adjusting machine cuts off a length of metal corner staying or reinforcing material and clinches it firmly in the corners of prefolded paperboard flats. Redesigned with a wide treadle for either-foot operation, it also has a variable speed drive which permits slowing down for difficult-to-assemble constructions. Improved Fastay material has a 10 per cent increase in compression resistance. Also offered is a Flasholder prefolded flat feeder which incorporates an imprinted device. • **Metal Edge Industries,** Barrington, N. J.

▲ For more details circle **NED-818 D1** on enclosed inquiry slip ▲

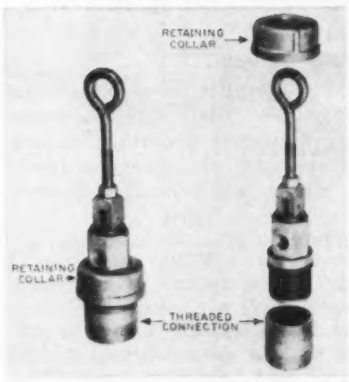
PALLETLESS HANDLING UNIT
attachment fits Hyster lift truck



Cost of handling cased and cartoned goods is minimized by the Cart-N-Grab attachment for Hyster SpaceSaver 30, 40, and 50 cushion tire series of lift trucks. It permits utilization of up to 15 per cent greater storage space. Aluminum arms are only 1¾ in. thick. Arms have no sharp corners or protrusions to damage adjacent stacks. Attachment is shown on a 5000-lb capacity SpaceSaver 50 truck. • **Hyster Co.,** 2902 N. E. Clackamas St., Portland 8, Oreg.

▲ For more details circle **NED-819 D1** on enclosed inquiry slip ▲

TEST CONNECTOR VALVE
for pressures up to 1000 psi



Pressure lines are quickly attached to threaded connections of tanks and other vessels with this Quick-Seal filling connector and retaining collar. It uses an expanding seal type flanged rubber bushing to handle pressures up to 1000 psi. Actuating a hand lever causes the bushing to expand against the side wall of the opening, and the flange is drawn to seat and seal against the outside face of the fitting, assuring a leakproof seal. Units are available for up to 4-in. pipe size. • **Mechanical Products Corp.,** 1716 W. Hubbard St., Chicago 22, Ill.

▲ For more details circle **NED-820 D1** on enclosed inquiry slip ▲

YOUR BEST MOVE IS TO MOVE WITH

MERRILL

MATERIAL HANDLING DEVICES FOR THE MOST IN *Safety and Economy*

Imitated, but never duplicated, Merrill Lifting Clamps are Drop Forged to give you Safety in Handling and Economy in Operation.

Over 25 Material Handling Devices described in our catalog C-3.
Ask for a copy.

AUTOMATIC FORK LIFT SAFETY LOCK ATTACHMENT
Transforms any fork lift truck into a safe, efficient mobile overhead lifting unit.

MERRILL BROTHERS
Producers of Drop and Press Forgings
56-13 Arnold Ave., Maspeth, N. Y.

T-60A

▲ For more details circle **NED-821 D1** on enclosed inquiry slip ▲

What should a filter filter?

The true test of a dust filter's efficiency is measured by the size of the particles it collects. Koppers new MODEL K AEROTURN *reverse-air jet* dust filter is virtually 100% efficient on sub-micron particles as small as 0.40μ. The dust filter that can cope with sub-micron particles does a better job for you in these areas:

• *Good Community Relations*—MODEL K AEROTURN meets strictest community codes . . . provides maximum employee protection.

• *Maximum Product Recovery*—*Extra* product recovery for extra savings, added profits.

• *Important Maintenance Savings*—Less labor, less housekeeping with MODEL K on the job. Also, lower dust content in plant air means longer life for machinery.

• *Lower Air Filter Operating Costs*—New self-adjusting blow rings, proven pressure controlled filter cleaning reduce wear . . . increase filter tube life . . . cut operating costs. Rugged, simplified construction virtually eliminates maintenance, down time.

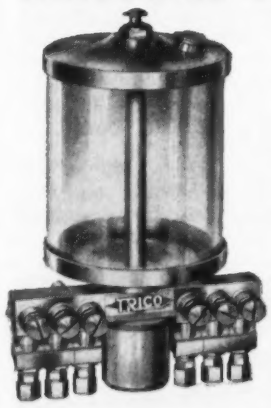
Write for brochure to KOPPERS COMPANY, INC., Dust Filter Dept., 4304 Scott St., Baltimore 3, Md.

KOPPERS **AEROTURN** DUST FILTERS
Engineered Products Sold with Service

▲ For more details circle **NED-822 D1** on enclosed inquiry slip ▲

Lubricate Up to . . . 20 . . . Bearings With TRICO

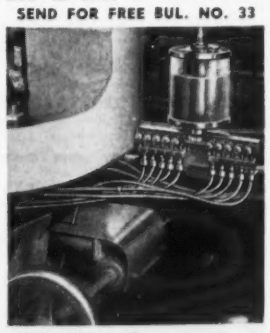
MULTIPLE FEED OILERS



- **Manual Or Solenoid Control**
- **Pyrex Glass Or Lucite Plastic Reservoirs**
- **1 Pt., 1 Qt. and 2½ Qt. Capacities.**

Automatically feed a measured quantity of oil by gravity to multiple bearing points. No intricate mechanical parts to clog or stick. Simple needle-valve adjustments eliminate dangers of guesswork.. Transparent bottle shows instantly when refilling is necessary. Easily installed. Low in cost.

SEND FOR FREE BUL. NO. 33



TRICO Multiple Oiler On Surface Grinder At Martindale Elec. Co., Cleveland, Ohio

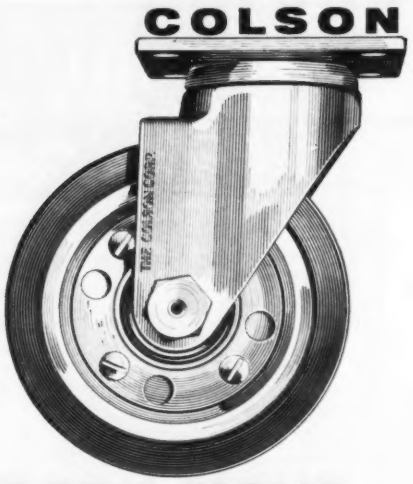
Ten Bearings are lubricated from one *central* point safely and economically. Great savings of costly labor and lubricants are reported over former method of daily "trust-to-luck" hand oiling.

Photo—Courtesy Martindale Electric Co.

TRICO FUSE MFG. CO. MILWAUKEE 12, WIS.

▲ For more details circle **NED-823 D1** on enclosed inquiry slip ▲

COLSON



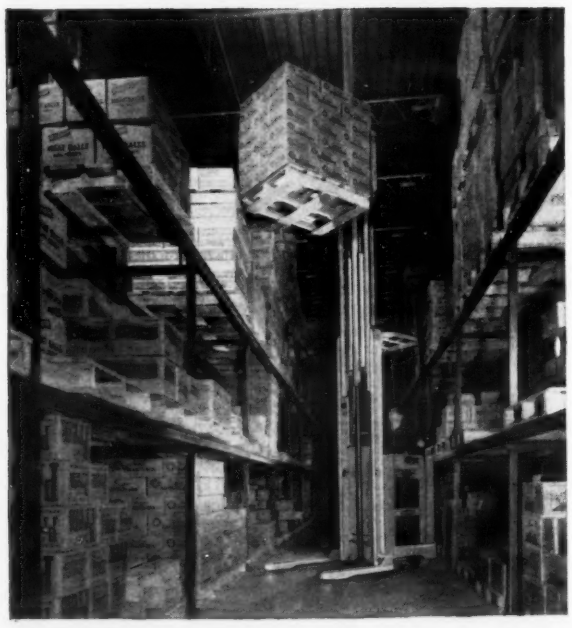
SMOOTH MOVE

to buy Colson Quality Casters! Precision built for unusually long and dependable service.
Designed to meet your specific requirements, regardless of load weight, operating or floor conditions.
Write for free descriptive catalog.

The Colson Corporation • 7 S. Dearborn St. • Chicago, Ill.
Plants: Jonesboro, Arkansas; Elyria, Ohio; Somerville, Massachusetts; Toronto, Canada.

For more details circle NED-824 D1 on enclosed inquiry slip

NARROW MINDED



RAYMOND

Narrow Aisle Trucks

RAYMOND Trucks are narrow minded where aisle widths are concerned. The truck we've illustrated, for instance, is tiering in an aisle just 6½ feet wide. Yet there's ample room to pick up or deposit loads in racks extending 20 feet high. A counterbalanced truck, by contrast, would have required an aisle 4 to 6 feet wider . . . wasting valuable floor space and sacrificing storage capacity.
Write for a copy of our latest catalog, "RAYMOND Narrow Aisle Handling Equipment". It contains ideas that may suggest substantial dollar and space-savings for your operation.

RAYMOND

The originator and largest builder of narrow aisle trucks

Lease-Rental Plans Available for all RAYMOND Equipment

The RAYMOND CORPORATION
4135 Madison St., Greene, N.Y.
Please send "RAYMOND Narrow Aisle Handling Equipment"

NAME TITLE
COMPANY
STREET
CITY STATE

For more details circle NED-825 D1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

These catalogs have been selected on the basis of the completeness of their data and their value to the needs of our reader-audience. They are sent to you by the manufacturer or distributor when you circle the proper item number on a self-mailing inquiry slip in the issue. When a price is mentioned or a letter-head request is indicated, you should write to the company.

Anchors, Drills, Screws & Clamps

Holub Industries, Inc.—Twelve new and a number of existing products are described and illustrated in 36-page pocket-size Catalog 101. Included are self-drilling anchors, Tru-Start masonry core drills, Tripl-Flute percussion drills, machine screws, copper tube Drive-Straps, wire stripper, and polypropylene plastic clamps, wiring devices, fuses, and others.

For more details circle NED-826 D1 on enclosed inquiry slip

Counting Instruments

General Controls Co., Automation Controls Div.—Electric, stroke, turn, revolution, and coil winding counters, plus counter actuators are subject of 6-page illustrated Folder 608.462. Dustproof and hermetically sealed coin counters, automatic batch counters, actuating switches, and photoelectric equipment are also detailed.

For more details circle NED-827 D1 on enclosed inquiry slip

Parking Lot Planning Manual

Western Industries, Inc.—"How to Lay Out a Parking Lot" is a comprehensive 40-page manual that takes into account the dimensions of all 1960 and 1961 model automobiles, including compacts. It affords a variety of parking lot plans, including layouts for 90, 60, and 45-degree angles. Recommended dimensions, mechanical aids, including parking gates, vehicle detectors, and guides are covered.

For more details circle NED-828 D1 on enclosed inquiry slip

Comfort Heating Equipment

Edwin L. Wiegand Co.—Extensive line of electric comfort heating equipment for solving commercial and industrial heating problems is described in illustrated Catalog 975-D. Dimensions and engineering and application data are included, along with a section on controls.

For more details circle NED-829 D1 on enclosed inquiry slip

Manual Motor Starters

Furnas Electric Co.—Line of manual motor starters for fractional horsepower motors is available with single and two-pole units with built-in thermal relays to protect the motor from sustained overload. Subject of 8-page illustrated Brochure 10-B1, they are made in various configurations and many ratings.

For more details circle NED-830 D1 on enclosed inquiry slip

Properties of Metals Handbook Described

American Society for Metals—32-page illustrated brochure describes the content of the new Metals Handbook, Eighth Edition, Volume 1, "Properties and Selection of Metals." Actual samples of its major sections, and information on how it was compiled by 1335 metalworking experts and 83 committees is related. Handbook will include 1300 pages, 6707 illustrations, and 1841 tables.

For more details circle NED-831 D1 on enclosed inquiry slip

Adjustable Speed Pump Drives

Westinghouse Electric Corp.—RectiFlow and MagnaFlow adjustable speed drives for pumping applications, detailed in 8-page illustrated Booklet 5560, are offered in a number of types for sewage, water treatment, pipeline, storm water, and industrial process uses. Application diagrams are included.

For more details circle NED-832 D1 on enclosed inquiry slip

Tooling Facilities

Advance Die & Tool Co.—Company's recently enlarged plant facilities as well as new machines, presses, and equipment are shown in 12-page brochure "Over 25 Years of Advance Tooling." Intricate stamped and formed parts produced with Advance tools include such appliance parts as toasters, sinks, irons, stove tops, and cabinets, as well as automotive parts, engine shrouds, and grills.

For more details circle NED-833 D1 on enclosed inquiry slip

MOTOR PROBLEM ?

"PERSONALIZED" MOTORS
FOR YOUR NEW PRODUCT
Planned, Designed and Manufactured
by Lamb Electric

Years of experience in creating fractional horsepower motors for exacting product requirements means you get the RIGHT MOTOR, mass-produced at the most favorable cost.

FREE! Write today for descriptive folder, and information on how you can set up a "Motor Conference".

THE LAMB ELECTRIC COMPANY • KENT, OHIO
A Division of American Machine and Metals, Inc.
In Canada: Lamb Electric — Division of Sangamo Company Ltd.—Leaside, Ontario

Lamb Electric
SPECIAL APPLICATION FRACTIONAL HORSEPOWER MOTORS

For more details circle NED-834 D1 on enclosed inquiry slip

now available!

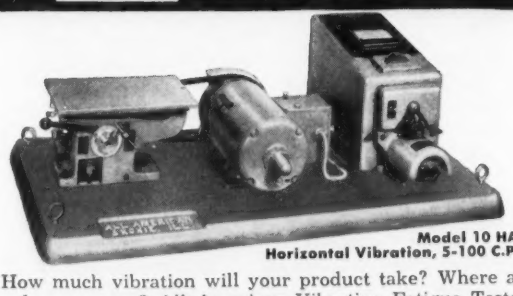
new pocket guide and catalog for better welding results

Nothing like it! Pocket size. Complete data on selection of rods and electrodes for welding stainless, low alloy, non-ferrous and light metals. Gives facts on applications, currents, preheating, annealing, AWS/ASTM classifications. Special sections on How to Get Better Stainless Welds, and Effect of Alloying Elements on Weld Metal. Comprehensive list of valuable technical data available. FOR FREE COPY write ARCOS CORPORATION, 1500 South 50th Street, Philadelphia 43, Pa.

ARCOS | Filler Metal Specialists

For more details circle NED-835 D1 on enclosed inquiry slip

ALL AMERICAN TESTERS
SPOT VIBRATION WEAK SPOTS BEFORE COSTLY FAILURE!



Model 10 HA-T
Horizontal Vibration, 5-100 C.P.S.

• How much vibration will your product take? Where are the danger areas? All American Vibration Fatigue Testers answer these questions in your shop or laboratory with shake-down tests that simulate field service vibrations. Engineering gets the facts needed to improve design at lowest cost. Equally effective in spot-checking production runs.

• All American Testers meet U.S. Government specifications for horizontal or vertical vibration testing of all sizes and shapes of units weighing up to 150 lbs. Range Selector automatically controls acceleration and deceleration, or holds vibration frequency at any desired point between 5 and 100 cycles per second.

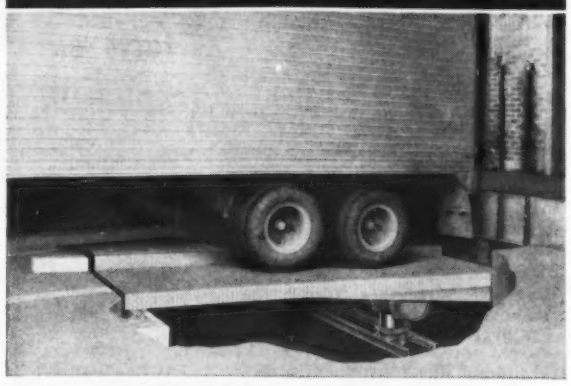
CATALOG "F"
gives full facts on all 10 All American Testers, proved in long service to government and industry.
Write for your free copy now.

ALL AMERICAN TOOL & MFG. CO.
Builders of ALL AMERICAN Precision Die Filing Machines
8044 Lawndale Ave. • Skokie, Illinois

For more details circle NED-836 D1 on enclosed inquiry slip

NEW, IMPROVED MODEL

Rotary® Truck Leveler



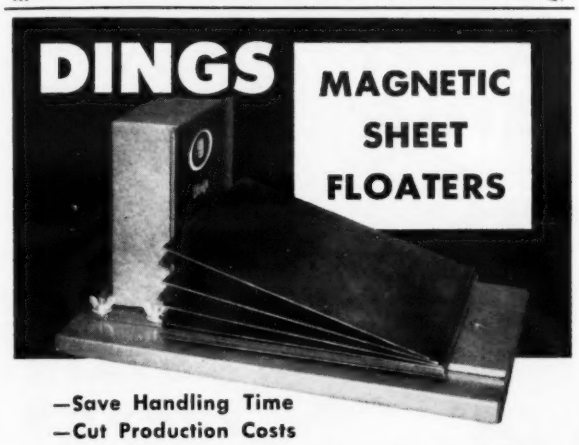
Now with 16′ platform...3′ vertical travel

A longer platform and greater vertical travel equip the Rotary Truck Leveler to handle modern trailers with high beds and long rear overhang . . . as well as all other highway carriers. Using economical hydraulic power, the Rotary Truck Leveler raises or lowers truck/trailer to bring bed to dock level for fastest, safest loading and unloading. Write for Catalog RE-800.

Rotary Lift Company—Division of Dover Corporation
1089 KENTUCKY, MEMPHIS 2, TENN.

▲ For more details circle NED-837 D1 on enclosed inquiry slip ▲

DINGS MAGNETIC SHEET FLOATERS



—Save Handling Time
—Cut Production Costs

Here's how to get faster, easier, safer handling of stacked steel sheets on hand feeding operations. Automatically separates top sheets in pile from those below...eliminates fumbling, protects dies, prevents scratching of finished surfaces. Helpers formerly needed to pry sheets apart now freed for other work.

DINGS MAGNETIC SHEET FLOATERS come completely enclosed in stainless steel to prevent damage to Alnico blocks or loss of magnetic efficiency through attraction of stray iron.

For more information write:

Dings

DINGS MAGNETIC SEPARATOR CO.
4758 W. Electric Ave.
Milwaukee 46, Wis.

▲ For more details circle NED-838 D1 on enclosed inquiry slip ▲

New Sealed Aluminum Hoist Line means easy lifting in any weather!

Efficient hoist performance is assured by sealing out moisture, oils, chemicals and dirt from the brake mechanism. Five seals provide permanent protection under exposure conditions.

Lifting is easy with the Coffing Sealed Disk Brake Lever Hoist because the handle pull to lift rated load requires only 57 pounds with the ¾-ton model to 93 pounds with the 6-ton model. Load spotting is precise—to within minute fractions of an inch. Sealed brake will not slip. Six models—¾ to 6-tons.

The high strength aluminum alloy frame is light—makes for easy portability. Ask your distributor or write for Bulletin ADH-78N.

MA-15 ¾-ton

COFFING HOISTS
DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle NED-839 D1 on enclosed inquiry slip ▲

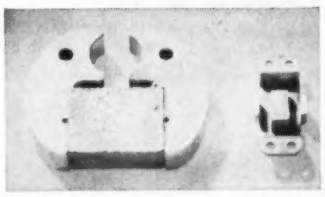
NEW MATERIALS AND PROCESSES

PLASTIC FOAM KIT
produces 1 cu ft of foam plastic

With the ingredients provided in this Plasti-Foam kit, about 1 cu ft of polyurethane foam can be produced. Kit consists of a round cardboard container with one square and one round metal can, and a metal stirrer. Contents of cans are mixed and poured into a mold of any material. The plain white foam is odorless and can be colored, tooled, or painted. One cubic foot of the foam provides 60 lb of flotation. Kit price is $6.95. • **Polystructures, Inc.**, 41 Montvale Ave., Stoneham, Mass.

▲ For more details circle NED-840 D1 on enclosed inquiry slip ▲

MAGNET SOLDERING FLUX
water-base type is fumeless



Plain Alnico magnets can be soldered to bare steel pole pieces when Organo-Flux No. 64-C is used. Satisfactory soldering formerly required electroplating the pieces. The non-resinous water-base product can be used under prolonged heat without fumes or odor. Residue is water soluble and easily removed. • **London Chemical Co.**, Dept. ND-5, 1535 N. 31st Ave., Melrose Park, Ill.

▲ For more details circle NED-841 D1 on enclosed inquiry slip ▲

POWDERED HAND CLEANSERS
remove imbedded skin soils

Fine scrubbing agent used in Pepco powdered hand cleansers produces a wash cloth action that gently and thoroughly removes imbedded skin soils. Cleansers are formulated with a quality vegetable oil soap and lanolin and lecithin emollients to ward off drying and chapping. Line of cleaners includes a group with Actamer antiseptic which reduces skin bacteria as much as 97 per cent. • **Peck's Products Co.**, 610 E. Clarence, St. Louis 15, Mo.

▲ For more details circle NED-842 D1 on enclosed inquiry slip ▲

JF Series

SAFE, RELIABLE POSITIVE CONTROL

Convenience, positive control and protection for the operator are provided by the pistol-grip, push-button control station of the Coffing Quik-Lift electric hoist.

Ask your distributor about the twenty JF models with capacities ranging from ¼ to 2 tons or write for Bulletin ADH-65N.

COFFING HOISTS
DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle NED-843 D1 on enclosed inquiry slip ▲

NEW PORTABLE PROPELLAIR®
TUBEAXIAL FANS with FLEXIBLE DUCT

WRITE: PROPELLAIR DIV.
ROBBINS & MYERS, INC.
SPRINGFIELD, OHIO

▲ For more details circle NED-844 D1 on enclosed inquiry slip ▲

AN ANTI-MISSILE MISSILE RADAR...

is kept on the alert with the help of an Eastern pressurizer dehydrator system. This compact unit feeds a flow of controlled, dry air to the wave guide of the powerful acquisition radar — at pressures higher than the atmosphere, so that the ambient can't sift in through leaks. As a result, moisture can't condense on high-voltage elements; dangerous arc-overs are eliminated. The dehydrating pressurization pack is completely self-contained, circulates air through alternate, self regenerating capsules of silica gel which need never be replaced. For additional information, write for Bulletin 370.

EASTERN INDUSTRIES, INC.
100 Skiff Street, Hamden 14, Conn.
West Coast Office: 4203 Spencer St., Torrance, Calif.

▲ For more details circle NED-845 D1 on enclosed inquiry slip ▲

AGAIN . . . Coffing Brings You a New Line of Hoists

The new Safety Pull Aluminum Ratchet and Pawl Lever Hoist is easy to operate —requires minimum handle pull. It may be operated from either side, and the design prevents freezing a load.

Safety has been built into the hoist. It will not ratchet under load if handle is released nor will it free chain. Controls are protected from inadvertent shifting. The bottom stop eliminates any hazard from the handle being released unintentionally. The exclusive safety handle bends to indicate overload.

Strength without excess weight in the new hoist is achieved by a special aluminum alloy which is used in the body and handle.

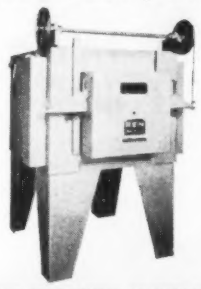
Available in six models with capacities from ¾ to 6 tons. Ask your distributor or write for Bulletin ADH-86N.

COFFING HOISTS
DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle NED-846 D1 on enclosed inquiry slip ▲

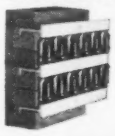
SOLVE HEAT-TREATMENT PROBLEMS
for Glass, Steel, Aluminum, Ceramics, Chemical Processing

ONLY TRENT BOX TYPE FURNACES offer these performance advantages:



- Controlled, Uniform Clean Heat to 2300°F.
- Operate from Standard Voltages
- Standard Switches and Controls
- Require No Transformers
- TRENT "Folded and Formed" Electric Heating Element

THE HEATING ELEMENT MAKES THE DIFFERENCE!



Surface of continuous "Folded and Formed" ribbon type element faces the work chamber—gives up to *4 times the radiating area* per given cross section of ordinary types! Let TRENT engineers study your needs to determine the efficient and economical solution to your heating problems.

Write for Bulletin 75-TD

TRENT INC.
Electrically Heated Industrial Equipment

251 Leverington Ave., Philadelphia 27, Pa.
In Canada
Pioneer Electric Eastern Ltd., Toronto

For more details circle NED-847 D1 on enclosed inquiry slip

For more details circle NED-848 D1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Guide to Injection Molding Accessories

Injection Molders Supply Co.—Grinders, drum tumblers, mold temperature recirculators, mold chillers, mold releases and lubricants, drying ovens, and other equipment and accessories for injection molding operations are subject of 72-page "1961 Plant Equipment Catalog."

For more details circle NED-849 D1 on enclosed inquiry slip

Mechanical Arms for Remote Handling

General Mills, Inc., Nuclear Equipment Dept.—Manipulator-equipped vehicle systems for remote handling operations are described in 20-page bulletin entitled "Vehicular Mechanical Arm Systems." Typical units which can be tailored to specific needs from available components for handling explosive, radioactive, toxic, or otherwise hazardous materials are shown.

For more details circle NED-850 D1 on enclosed inquiry slip

Precision Control Components

Bowmar Instrument Corp.—Subminiature elapsed time indicator, series of servo motors, motor-tachometers, gearhead motor, and brake clutches are among the "Precision Products for Precision Control" described in 6-page illustrated folder of that name. Also covered are mechanical differentials and a spring return mechanism. Total of 28 components and packages is described.

For more details circle NED-851 D1 on enclosed inquiry slip

Vapor-Spray-Vapor Degreasers

Phillips Mfg. Co.—Hot vapor of solvent condensate used in a line of vapor-spray-vapor degreasers instantly dissolves all greases and oils. Because of rapid rate of solvent condensation, such solids as dirt, chips, and compounds are flushed off. Specifications for equipment are found in 4-page illustrated Bulletin 21.

For more details circle NED-852 D1 on enclosed inquiry slip

Making Maintenance & Repair Parts

La Salle Steel Co.—Helpful hints on how to repair equipment and get it back into operation in minimum time at minimum cost using Stressproof steel bars are presented in 16-page picture booklet, "One Way To Make Your Job A Little Easier." Savings in machining, heat treating, and secondary operations are outlined.

For more details circle NED-853 D1 on enclosed inquiry slip

Aluminum Integral Motor

Franklin Electric Co.—Up to 30 per cent lighter than cast iron motors, the standard integral motor made of aluminum and described in 8-page illustrated bulletin is available in single and polyphase types rated 1 to 7½ hp. Aluminum parts are frame, end bells, rotor, and conduit box. Various design features are explained and specifications are given.

For more details circle NED-854 D1 on enclosed inquiry slip

FREE

"SUCCESSFUL SUPERVISION" KIT

INCLUDES:

- MOTIVATION
- QUALITY AND SERVICE
- LINE-STAFF RELATIONS
- 50 PAGE PLANNING GUIDE
- THE SIX BASIC PRINCIPLES
- FACTS AND FORECASTS
- COST AND WASTE CONTROL

This valuable kit is yours without obligation. Simply fill out the coupon and mail it today.

ELLIOTT SERVICE COMPANY, INC.
MOUNT VERNON, NEW YORK

ELLIOTT SERVICE COMPANY, INC.
Department E-2, Mount Vernon, N. Y.
Please provide me with a free copy of "Successful Supervision."
Name _____ Title _____
Firm _____
Address _____
City _____ Zone _____ State _____

For more details circle NED-855 D1 on enclosed inquiry slip

Do you screen, sift or grade dry materials?

Get the facts on BAR-NUN *Rotary* SIFTERS

Features include: Rapid, accurate separations, achieved by complete rotary motion . . . big capacity in limited floor space . . . dust-tight, totally enclosed construction . . . easy cleaning . . . optional stainless steel product zone . . . all-mechanical heavy-duty construction. Available with from 2 to 78 square feet of screen area—for single or multiple separations of dry materials, as fine as 325 mesh. Here's real screening efficiency, economy, durability.

Details in 6-page Bulletin 503

B. F. GUMP CO.
Engineers and Manufacturers since 1872
1336 South Cicero Avenue, Chicago 50, Illinois

SALES AND SERVICE: New York 36—Jabez Burns and Sons, Inc.—600 W. 43rd St. San Francisco 5—Tempo-Vane Mfg. Co.—330 First St. Dallas 2—J. B. Williams—1026 Young St.

For more details circle NED-856 D1 on enclosed inquiry slip

SAFETY GRIP-STRUT

Patented

STAIR TREADS

for greater safety • for greater economy

Use Safety GRIP-STRUT stair treads throughout your plant, on your manufactured products for greater anti-skid protection. All one piece of material with open area in excess of 55% total area, easy to flush clean, greater strength with less weight, in steel or aluminum.

Available at Globe Distributors in all principal cities. Consult yellow pages in your phone book under "stair treads."

PRODUCTS DIVISION
THE GLOBE COMPANY
4002 S. PRINCETON AVE. • CHICAGO 9, ILL.

For more details circle NED-857 D1 on enclosed inquiry slip

TURN SCRAP HANDLING INTO A PROFIT!

Segregated scrap brings higher prices. Add the convenience of easier collection and handling, and in most cases you can convert scrap handling from a loss into a profit. Hundreds of industries now use Roura Hoppers to collect scrap metal. They're placed alongside machines or in strategic locations. When full, a lift truck operator picks up loaded hopper—transports it—releases latch. Hopper automatically dumps itself, rights itself, locks itself. Eight sizes, ⅓ to 4 yards capacity. Made of 3/16" steel plate, also stainless or galvanized. Standard models shipped from stock. Write for literature.

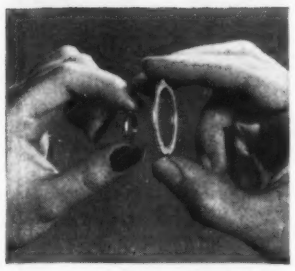
ROURA Self-Dumping HOPPER

ROURA IRON WORKS, INC.
1415 Woodland, Avenue,
Detroit 11, Michigan.

For more details circle NED-858 D1 on enclosed inquiry slip

ENGINEERED GASKETS

At last—a spiral-wound gasket no thicker than a wedding ring! Ideal for limited space or light flange applications, this new Garlock GUARDIAN Spiral-Wound Gasket is available in sizes as thin as 1/16" in gaskets up to 6" I.D., maximum flange width 3/8". With built-in density to match varying pressures, the gasket seals tight as high as 2500 p.s.i. at temperatures to +1900°F. Available in different metals and filler materials, depending on service—at high temperatures, Garlock uses a new ceramic filler which resists heat, mold, mildew, aging, is completely inorganic, allows indefinite shelf life. Call our nearest office for more data. Or, write for Catalog AD-176, Garlock Inc., Palmyra, N. Y.



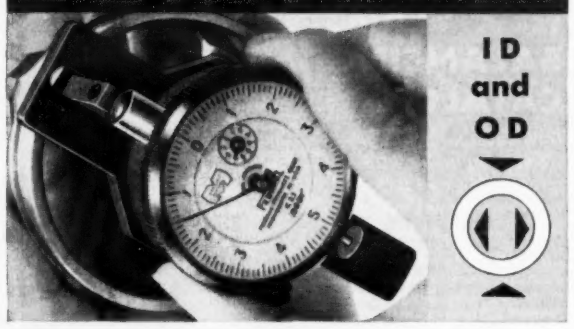
New, ultra-thin Garlock GUARDIAN* Gaskets solve the problem of high-temperature, limited-space sealing.

GARLOCK

Canadian Div.: Garlock of Canada Ltd.
Plastics Div.: United States Gasket Co.
Order from the Garlock 2,000 . . . two thousand different styles of Packings, Seals, Molded and Extruded Rubber, Plastic Products.
*REGISTERED TRADEMARK

▲ For more details circle NED-859 D1 on enclosed inquiry slip ▲

NEW POCKET-SIZE PRECISION COMPARATOR



- Readily converts to I.D. or O.D.
- Checks shallow diameters, width of slots, spacing between shoulders, etc . . . at bench, or if desired, at machine, while work is still in chuck.
- Wide adjustability — capacity 1 1/8" to 4 1/2" for inside diameters: from 3/4" to 4 1/8" for outside diameters. Gaging depth 1/8". Range of sensitive contact is .100".
- Has Miracle Movement Dial Indicator, .0001" grads.

For complete information and prices (Model 36P-1) write

FEDERAL PRODUCTS CORPORATION
1174 Eddy Street, Providence 1, R. I.

Ask **FEDERAL** *First*

FOR RECOMMENDATIONS IN MODERN GAGES . . .

Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

▲ For more details circle NED-860 D1 on enclosed inquiry slip ▲

NYLON PRESSURE TUBING

Flex it . . . twist it . . . bend it! In fact, shape Garlock Nylon Pressure Tubing into practically any contour you need. Think what this means in terms of freedom and versatility on hydraulic-pneumatic systems, pressure lubrication lines, oil and fuel lines, vacuum systems. Garlock Nylon Pressure Tubing is a superior material, unaffected by oils, alkalies, hydraulic fluids, and many solvents that tend to corrode metal. It resists vibrational fatigue, abrasion, impact; withstands temperatures from −60°F to +180°F (can be heat stabilized for 300°F). Available in 1000 and 2500 p.s.i. grades, conforming to J.I.C. specifications. Diameters from 1/8" O.D. up to largest size commercially made. Call our nearest sales office for more data. Or, write for Catalog AD-177, Garlock Inc., Palmyra, N. Y.

Garlock Nylon Pressure Tubing can be formed into all contours, offers wide application "leeway."

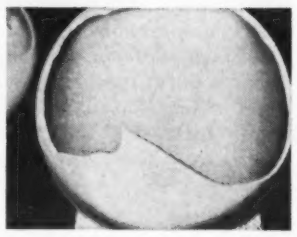
GARLOCK

Canadian Div.: Garlock of Canada Ltd.
Plastics Div.: United States Gasket Company
Order from the Garlock 2,000 . . . two thousand different styles of Packings, Gaskets, Seals, Molded and Extruded Rubber, Plastic Products.

▲ For more details circle NED-861 D1 on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

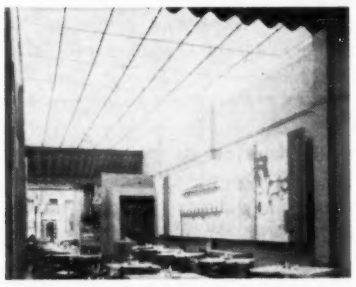
WASHAWAY MOLD MANDREL for reinforced plastic vessels



Hot-melt, water soluble Paraplast is basis for a new procedure for making up to 36-in. diameter washaway mandrels for all types of reinforced plastic pressure vessels. The complete mandrel has a hard, dense, ceramic-like surface that will withstand compressive forces up to 19,000 psi. It can be slush molded quickly to produce an eggshell hollow type structure of any thickness. After fabrication and cure of the pressure vessel by filament winding or laminating, the mandrel is removed quickly by a water wash. In some cases, the mandrel can be removed by breakout or meltout procedures, and the Paraplast can be reused. A kit containing all needed materials sells for $85. • **Rezolin, Inc.**, 1651 18th St., Santa Monica, Calif.

▲ For more details circle NED-862 D1 on enclosed inquiry slip ▲

TRANSPARENT VINYL SHEET usable in luminous drop ceilings



Transparent Goodlite 40 thermoplastic sheet has a striated surface to create a prismatic effect that diffuses light. Usable in luminous drop ceilings, it has sufficient hiding power to minimize the "hot line" effect of fluorescent lighting. About 65 per cent of total available light is transmitted. Available designs range from panels of plain squares to vacuum formed circles and star patterns. The washable, fire resistant, and warpproof vinyl has high impact strength and is adaptable to modular dimension, vacuum formed diffuser pans in unlimited designs. Flat sheets up to 30 in. wide are made in any length. • **B. F. Goodrich Co.**, Molded & Coated Products Dept., Watertown 72, Mass.

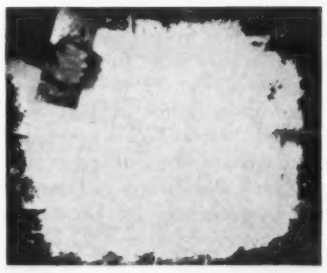
▲ For more details circle NED-863 D1 on enclosed inquiry slip ▲

STAIN REMOVER in 6-oz size spray dispenser

Grease spots, scuff marks, and small ground-in dirt stains are easily removed by application of A-3 detergent-disinfectant-odor counteractant from the Pfsst spray bottle. It holds 6 oz of the material which, when used with a damp cloth, removes stains from doors, walls, tables, and other surfaces. It cleans, disinfects, kills odors, and leaves a residual air freshening effect. • **Airkem, Inc.**, 241 E. 44th St., New York 17, N. Y.

▲ For more details circle NED-864 D1 on enclosed inquiry slip ▲

EPOXY COATING for use on all masonry structures

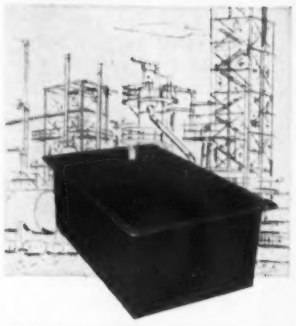


Permanent, nondeteriorating Epo Liquid Plaster is an epoxy resin compound, formulated for vertical application to almost all masonry structures. It bonds tightly, will not crack upon curing, provides a waterproof finish and protection against acids, alkalis, and caustics. Basement walls, storage pits, shower rooms, and silos are typical applications. It can also be used to repair exterior masonry. Application is by trowel in thicknesses from 1/4 in. down to a feathered edge. Coating is made in gray (standard) and other colors. It may be sanded smooth and finished with Epo Liquid Regular in any decorator color. • **George E. Fines, Inc.**, 18640 Wyoming Ave., Detroit 21, Mich.

▲ For more details circle NED-865 D1 on enclosed inquiry slip ▲

CORROSION RESISTANT TANK LININGS

New GAR-LINE Penton Tank Linings offer economical, high-temperature protection against corrosion. These linings are proving their ability to perform as well as, and better than more expensive materials in many corrosive exposures at high temperatures. Mechanically, GAR-LINE Penton Tank Linings exhibit excellent tensile strength at high temperatures, good dimensional stability and low water absorption. Chemically, they resist all inorganic acids except fuming nitric and fuming sulfuric. GAR-LINE Penton Tank Linings are applied by carefully selected and authorized applicators, including one near you.



Typical Chemical Milling Tank Penton*—Lined to Handle Hot Acids

GARLOCK

For more information on Penton (or Teflon†) Tank Linings, write to Special Products Dept., Garlock Inc., P.O. Box 612, Camden 1, New Jersey.

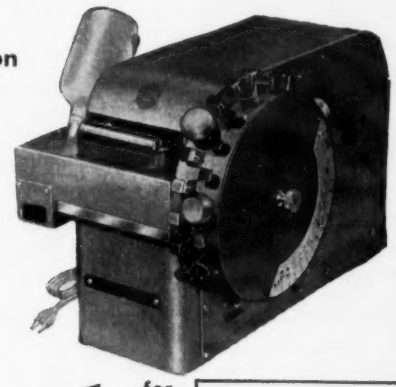
*Registered Trademark, Hercules Powder Co.
†Registered Trademark, The Du Pont Co.

▲ For more details circle NED-866 D1 on enclosed inquiry slip ▲

FREE TRIAL in your plant

THE IDEAL 200-E ELECTRIC CLIP-A-TAPE

- **Push a button get the exact tape length desired!**
- **Save 20% to 40% in time and tape!**



IDEAL for free trial

SEE THE YELLOW PAGES FOR NAME OF NEAREST DEALER OR WRITE DIRECT TO FACTORY

STENCIL MACHINE CO.
134 IDEAL BLOCK, BELLEVILLE, ILLINOIS

▲ For more details circle NED-867 D1 on enclosed inquiry slip ▲

NEW GLACIER DU* DRY BEARINGS

Problem after problem arising from extreme temperatures and wear has been solved by using DU metal as a bearing material. It not only withstands higher velocities, but runs much cooler than other unlubricated bearings at comparable speeds. DU metal withstands from −450°F to +536°F, is applied without the need for temperature limiting adhesives. DU metal has a compressive strength of 51,000 p.s.i.

Apply DU material to appliances, automobiles, aircraft, farm and industrial machinery, office equipment. Standard bushings available for 1/4" to 5" shafts; thrust washers for 3/8" to 2" shafts; hemispherical cups from 5/8" to 1 1/2"; strip available for special fabrications.

GARLOCK

Find out more from your bearing manufacturer, or write for engineering catalog DU-458. Special Products Dept., Garlock Inc., P.O. Box 612, Camden 1, N. J.

*Trademark, Glacier Metal Company, Ltd.

▲ For more details circle NED-868 D1 on enclosed inquiry slip ▲

AIR ISOLATOR*

. . . opens doorways to unlimited traffic while screening out heat, cold, humidity, dust, odors, insects.

Forms a shield between areas of different temperature or humidity.

Provides high velocity curtain of vertical air across open doorways.

Permits unlimited traffic. Repels dust, cold, heat, odors or insects.

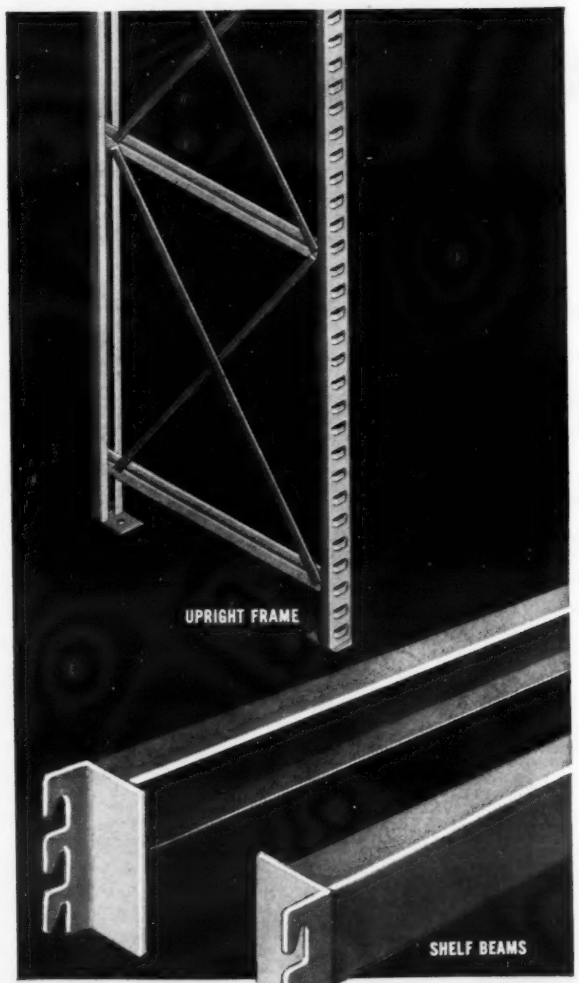
Broad application: Manufacturing, general industry, warehousing, food processing or laboratories.

*Registered trademark and product of Lehigh, Inc.

For complete information write today to Jamison Cold Storage Door Co., Hagerstown, Md.

JAMISON
COLD STORAGE DOORS

For more details circle NED-872 D1 on enclosed inquiry slip



HERE'S THE MOST UNIQUE STORAGE RACK PRODUCED

- SHIPPED WITHIN 24 HOURS OF ORDER
- SIXTEEN POSSIBLE RACK COMBINATIONS
- ADJUSTS ON 3-INCH CENTERS TO BOTTOM
- NO LOSS OF ADJUSTABILITY AT BRACING POINTS
- NO METAL REMOVAL IN CONSTRUCTION

The Standard Series 75 can be erected in a matter of minutes—there are no third-piece connectors. Cross members lock immediately and positively to the uprights in a two-piece system. All units are finished in Palmer-Shile Safety White, an innovation that increases rack visibility and considerably improves the appearance of storage areas.

Each shelf carries a conservatively rated 4,000 pound capacity. Before you consider the purchase of any rack you owe it to yourself to check into the facts: to see how much better, quicker and more economically the Standard Series 75 can serve your storage needs. **Send for free detailed literature.**

Costs and sizes for the Standard Series 75 are as follows: UPRIGHT FRAMES /96" x 30" (14.25) /96" x 36" (14.50) /120" x 30" (15.50) /120" x 36" (15.75) /SHELF BEAMS /54" (6.90) /90" (12.60)/108" (16.25)/120" (19.55). All shelf beam prices and specifications are per pair.

PS PALMER-SHILE
SERVING THE MATERIALS HANDLING NEEDS OF THE NATION
16000 FULLERTON, DETROIT 27, MICHIGAN

For more details circle NED-873 D1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Coaxial Components

Microlab — 72-page Catalog 10 provides detailed specifications of coaxial attenuators, filters, power dividers, terminations, crystal mounts, tuners, and other coaxial microwave components. Design sections for each product present general technical information to assist in selection of the proper components. Included is an article on "The Applications of Matrix Algebra to the Design of Microwave Networks."

For more details circle NED-874 D1 on enclosed inquiry slip

Cranes & Components

Consolidated Crane & Engineering Corp.—"Building Blocks for the Crane Industry" is the title of 64-page Manual 61A on hoists, cranes, and components. Described are end trucks, Gard-Elex enclosed conductors, Load Tamer hoists, crane drives and fluid drive motors, trolleys, runway rails, hanger fittings, and other components for building top-riding and underslung cranes with 1 to 15-ton capacities.

For more details circle NED-875 D1 on enclosed inquiry slip

Enclosed Bulk Material Conveyor

Prab Conveyors, Inc.—The Prab Tube-Veyor is a totally enclosed bulk handling conveyor which features a two-directional chain, easily changed two-piece flights, versatility in feeding and discharge, and resistance to high temperatures and wear. Capacities range up to 18.6 cfm of such materials as chips, sludge, sand, salt, grain, coal, and starch.

For more details circle NED-876 D1 on enclosed inquiry slip

Glass Fiber Reinforced Plastics

Gisholt Plastics—Products ranging from small intricate parts held to close tolerances to large durable machine housings and automotive bodies can be made from Masterglas glass fiber reinforced molded plastics. Masterglas is described in 8-page Bulletin 1181-B along with Delwood, a formulation of cured wood products, glass fibers, and waterproof resins.

For more details circle NED-877 D1 on enclosed inquiry slip

Small AC Motors

Air Marine Motors, Inc.—Data on a complete line of fractional and subfractional horsepower alternating current motors for fan, blower, and many other industrial and military equipment needs are given in illustrated catalog. Typical performance curves are included, and guidance on "how to select a motor" is offered.

For more details circle NED-878 D1 on enclosed inquiry slip

Optical Comparators Manual

Jones & Lamson Machine Co.—Besides basic catalog information, this 60-page illustrated manual on optical comparators and universal measuring machines contains a step-by-step illustrated demonstration of basic measuring. Other sections detail accessories and over 20 applications from tiny electronic components to large steam turbine blades.

For more details circle NED-879 D1 on enclosed inquiry slip

Structural Tubing Guide

Joseph T. Ryerson & Son, Inc.—Engineering data on square, rectangular, and round steel tubing for structural uses in buildings, machinery, furniture, fixtures, appliances, truck bodies, racks, and supports are found in 6-page illustrated Technical Bulletin 12-3. Its advantages over other steel shapes are listed.

For more details circle NED-880 D1 on enclosed inquiry slip

Plastic Pipe

Johns-Manville Corp.—Data provided in 10-page Brochure TR-270A will enable designers to evaluate the quality and performance capabilities of J-M Supreme Plastic Pipe. Featured "How-To" section of the book provides recommendations for cutting, connecting, installing, testing, and backfilling. Pipe is made in 1 to 6-in. sizes in three grades for pressures to 100 psi.

For more details circle NED-881 D1 on enclosed inquiry slip

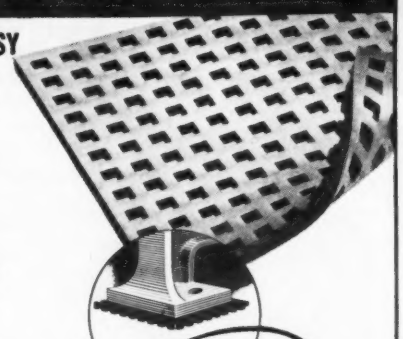
Pipe & Tubing Parts Manual

Lincoln Engineering Co.—Specifications for such products as adapter couplings, bushings, elbows, tees, hose assemblies, and brackets that are frequently used as production parts in OEM design are presented in 18-page Bulletin 921. Diagrammatic views of Dryseal pipe threads and relationships of different types are included.

For more details circle NED-882 D1 on enclosed inquiry slip

NEW REVOLUTIONARY DESIGN FOR LOW COST MACHINE MOUNTINGS

THE NEW EASY BETTER WAY TO INSTALL MACHINERY



Scientifically constructed suction cells anchor machine to floor. No bolts, lag screws or cement needed.

FABCEL Pads
Patent Applied For

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- Control Vibration
- Absorb Impact
- Reduce Noise

FABREEKA PRODUCTS COMPANY, INC.
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- made by the makers of Fabreeka -

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FREE NEW BEAR BALANCING CATALOG

New Loose-Leaf Design — 32 pages packed with information and technical data to help you select the RIGHT Balancer for the job!

Just off the press! Bear's new, complete Industrial Balancing Catalog No. 160. One of the most complete directories on static and dy-namic balancing machines available anywhere. Shows models balancing any moving part from a few ounces to tons, production line or maintenance balancing.

Contents:

- Static and dy-namic unbalance explained
- Principles of operation
- Forces created by unbalance
- How to choose and order balancers
- Production line balancing machines
- Maintenance type balancers
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- Specially built balancers

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Now the Most Complete Line of Balancing Machines for PRODUCTION LINE and MAINTENANCE BALANCING
WRITE TODAY! BEAR MFG. CO., Dept. N-2, Rock Island, Illinois

For more details circle NED-884 D1 on enclosed inquiry slip

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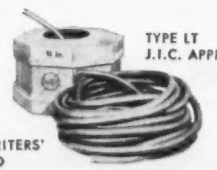
LIQUATITE®

FLEXIBLE CONDUIT PROTECTION

Liquatite insures against costly down time due to wiring failure. It protects against contamination, vibration, motion and shock; proves ideal for "wet locations," around corrosives or where severe punishment may cause shorts or burn-outs.

Added to this, Liquatite installs as easily as Flexible Conduit—follows contours, takes small radius bends necessary for hard-to-get-at locations.

Write today for free sample, costs and name of Distributor nearest you.



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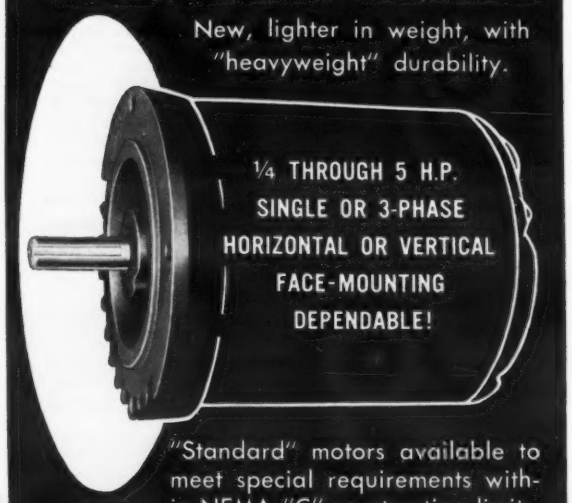
LIQUATITE®

ELECTRI-FLEX COMPANY
P.O. BOX 128-H • ROSELLE, ILLINOIS

For more details circle NED-885 D1 on enclosed inquiry slip

Franklin NEMA "C"
FACE-MOUNT MOTORS

New, lighter in weight, with "heavyweight" durability.



"Standard" motors available to meet special requirements within NEMA "C" construction limits. Write for specifications brochure.

FRANKLIN ELECTRIC
Franklin Electric Co., Inc
BLUFFTON, INDIANA

For more details circle NED-886 D1 on enclosed inquiry slip

NEW
LOW-BOY
PowRarm!

Holds 50 lbs. . . brings work closer to operator. . . reduces fatigue. . . makes bench operations easier!

The new Low-Boy work positioner is only 5½" high. It brings work closer to the bench. Makes it easier for a seated operator to work accurately and without fatigue. Wilton PowRarms leave the hands free and position work where desired. Available in a wide range of models, mechanical and hydraulic, handling loads from an ounce to 1000 pounds!

TRY POWRARM IN YOUR PLANT FREE! 10 DAY TRIAL . . . NO OBLIGATION, OF COURSE.

WILTON
NED-41
WILTON TOOL MANUFACTURING CO. INC.
SCHILLER PARK, ILLINOIS
Attach this ad to your letterhead and mail for free literature!

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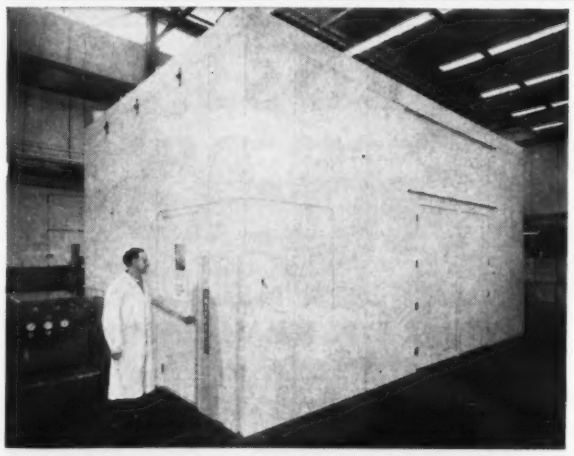


ERECT STANDARD 15′ x 39′ PRE-FAB-LAB® IN 2 to 3 DAYS

New Sheffield Pre-Fab-Lab®, a demountable environmental controlled enclosure for gage laboratory or "white room", keeps temperature within ¼° F, RH under 50%, circulates electrostatically cleaned air. Costs far less than permanent installation. Readily dismantled and reassembled. Standard models: 15′ x 23′, 15′ x 31′, 15′ x 39′. Height 12′. Entry 8′ x 8′ for moving large equipment. Regular door has airlock. Write for Bulletin or proposal, to Division No. 600.

The **SHEFFIELD** *Corporation • Dayton 1, Ohio*
A subsidiary of The Bendix Corporation

For more details circle NED-888 D1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

WATER SUCTION HOSE
regains shape if crushed

Shape of Rebound water suction hose is maintained by a treated rope helix embedded in heavy rubber between two plies of fabric reinforcement. The helix also prevents collapse at high vacuum. Hose springs back to its original shape, even if completely crushed when run over by a truck as shown. It is produced in lengths to 50 ft, with 1½ to 3-in. ID. The nonporous interior tube resists abrasive action of sand and grit and is impervious to mildly acid or alkaline water. Straight ends are stocked, and enlarged ends are optional. • **Goodyear Tire & Rubber Co.**, 1144 E. Market St., Akron 16, Ohio.

For more details circle NED-889 D1 on enclosed inquiry slip

SOAK TANK CLEANER
removes soils by immersion

Heavy, tenacious soils are removed from steel, brass, and magnesium by immersion in Oakite HD 126 soak tank cleaner. Recommended for use in hard water areas, compound can also be used in barrel cleaning before plating or vitreous enamel finishing. Concentrations from 4 to 12 oz per gallon at 180 to 195° F have a pH of about 13.5. • **Oakite Products, Inc.**, 132G Rector St., New York 6, N. Y.

For more details circle NED-890 D1 on enclosed inquiry slip

CORROSION INHIBITOR
self-spray fluid displaces moisture

Calfonex Formula 78-A is an effective moisture repellent that affords protection wherever the corrosive effect of moisture may cause malfunction or damage. It is applied directly from aerosol spray container or by dipping, brushing, or power spraying. Product rapidly displaces water and moisture, penetrates to bare material surface, removes rust and contamination, and forms a continuous molecular film that seals. It is usable on electrical and electronic components, all metal surfaces, "frozen" parts, painted surfaces, ceramics, rubber products, tools, and machines. It is offered in 16-oz aerosol cans, and 1 and 5-gal drums. • **Falcon Corp.**, Box 1035, Brooklyn 1, N. Y.

For more details circle NED-891 D1 on enclosed inquiry slip

Sure Cure for Leaky Joints

- No Washouts • No Cracking • No Blowouts
- No Galling • No Seizing
- Temperatures to 550°F. • Pressures to 6000 psi.
- LP and Natural Gases, Petroleum, Refrigerants, Steam, Water, Many Chemicals

Approved for all petroleum products services.

Be Convinced . . . Request Free Sample

Crane Packing Co., 6411 Oakton Street, Morton Grove, Illinois (Chicago Suburb)
In Canada: Crane Packing Co., Ltd., Hamilton, Ont.

CRANE PACKING COMPANY

For more details circle NED-892 D1 on enclosed inquiry slip

T . . . MARK OF A SPEED NUT®

• One-piece Push-On SPEED NUTS® cut assembly time • tough, vibration-proof, top-quality spring-steel • eliminates threaded nuts, lock washers, spanner washers • easy-off, removable types available • complete selection of shapes and sizes

Write for free descriptive literature

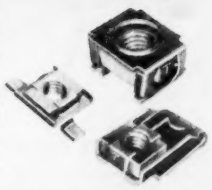
LOOK FOR THE TINNERMAN "T"!

TINNERMAN PRODUCTS, INC.
BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO

For more details circle NED-893 D1 on enclosed inquiry slip

T . . . MARK OF A SPEED NUT®

• Solves blind-location fastening problems • nut in a self-retaining cage eliminates welding or staking • snaps in place anywhere along assembly line, applied after painting or porcelainizing, eliminates masking or retapping of clogged threads • extra holding power for high-torque applications • for a wide range of screw sizes and panel thicknesses



Write for free descriptive literature

LOOK FOR THE TINNERMAN "T"!

TINNERMAN PRODUCTS, INC.
BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO

For more details circle NED-894 D1 on enclosed inquiry slip

T . . . MARK OF A SPEED NUT®

• Snap quickly over panel edge . . . or in center panel hole ready to receive screw • self-locking, vibration-proof, one-piece spring-steel • eliminate welding, staking, secondary fastening methods • lock securely in place, yet easy to remove • sizes, shapes for wide range of applications

Write for free descriptive literature

LOOK FOR THE TINNERMAN "T"!

TINNERMAN PRODUCTS, INC.
BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO

For more details circle NED-895 D1 on enclosed inquiry slip

Less wear on runways, longer life for chain with **Jeffrey Barloop Chain**

This chain presents reduced bearing pressures to surfaces on which it slides, so runways last longer. The chain also wears longer because the open strap construction makes it self-cleaning. No trapping of materials to accelerate pin wear.

Jeffrey barloop chain is interchangeable with flat-and-round chain. Installation is easy, since it readily can be taken apart and put together at any point. Less downtime for upkeep, and maintenance costs are low.

Ask your Jeffrey distributor about Jeffrey barloop chain for general elevator and conveyor service.

JEFFREY

THE JEFFREY MANUFACTURING COMPANY
COLUMBUS 16, OHIO

For more details circle NED-896 D1 on enclosed inquiry slip

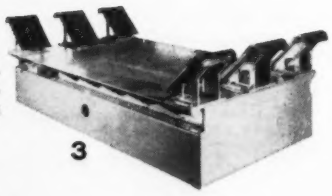
Let SALEM-BROSIUS Help You Solve Material Handling Problems

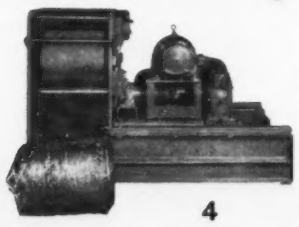
Capacities up to 600,000 lb., standard and custom-designed for in-plant handling.

TRAILERS

TRAIL SKIDS
Trail skids offer quick, easy, and economical movement of parts and raw materials.

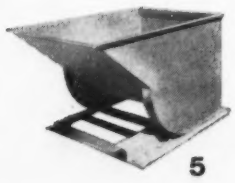
TRANSFER CARS
Any capacity in plant cars for handling all types of material and work in process.

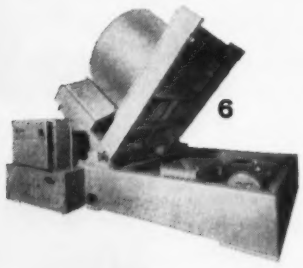




SCRAP BALLERS
Keep slitting line scrap off the floor and prepare a bundle that will bring you premium scrap prices.

HOPPER SKID DUMPS
½ to 10 yd. capacity, there are models for stacking and others with wheeled undercarriages for easy handling. Patented latch prevents accidental dumping.





COIL TILTERS
Capacities up to 60,000 lb., these upenders and downenders for metal coils offer easy handling. Remote control optional.

Write today for a Catalog

Salem-Brosius, Inc.
P. O. BOX 2222 PITTSBURGH 30, PA.

For more details circle NED-897 D1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Metering Flow

B-I-F Industries, Inc.—Dall flow tubes, Herschel standard venturi tubes, venturi flow nozzles, and the new plastic Parshall flume liner are some of the primary flow metering elements described in 8-page engineering reference Bulletin 100.20-1. Line sizes range from 1-in. up in these devices for metering water, air, gas, petroleum products, acids, and sewage under widely varying temperature and pressure conditions.

For more details circle NED-898 D1 on enclosed inquiry slip

Silicones for the Space Age

General Electric Co., Silicone Products Dept.—Under the above title, 16-page Bulletin CDS-276 discusses the extreme heat protection, low temperature flexibility, good electrical properties, and resistance to ozone, corona, weathering, and thermal shock afforded by various silicone rubber compounds. Their use in equipment, components, insulations, as heat transfer fluids, lubricants, water repellants, anti-stick compounds, and many other applications is covered.

For more details circle NED-899 D1 on enclosed inquiry slip

Pre-Engineered Buildings

Parkersburg Rig & Reel Co., Buildings Div.—16-page Catalog BD-660 describes four principal types of permanent pre-engineered metal buildings which will serve virtually any industrial, commercial, or other need. The self-supporting types need no structural steel. Rigid-frame models range up to 120 ft wide, 20 ft high, and are expandable in unlimited lengths in 16 and 20-ft bays. Wide selection of interior arrangement as well as interior and exterior finishes is offered.

For more details circle NED-900 D1 on enclosed inquiry slip

Soundproof Phone Booths

Burgess-Manning Co.—Open construction acoustic telephone booths and their contribution to convenient, comfortable phoning in noisy areas is covered in 4-page illustrated folder. Five types are described. Also shown are sound attenuating booths, rooms, and enclosures made to order for shop or office use.

For more details circle NED-901 D1 on enclosed inquiry slip

High Bay Lighting

Thomas Industries Inc., Benjamin Div.—Solutions to varied industrial lighting problems are suggested in the form of various mercury vapor and incandescent lighting fixtures in High Bay Lighting Bulletin H. The two types are compared. A complete range of high bay units is listed, along with accessories.

For more details circle NED-902 D1 on enclosed inquiry slip

Abrasive Belts, Rolls, Sheets & Discs

Carborundum Co.—All items listed in "Catalog of National Standard Abrasive Belts, Rolls, Sheets, and Discs" are maintained in stock in Coated Abrasives Div. warehouses which utilize electronic order processing and inventory control. Use of the catalog speeds service and cuts cost by specifying standard catalog items.

For more details circle NED-903 D1 on enclosed inquiry slip

Gaging Ideas

Boice Gages, Inc.—84-page booklet entitled "Ideas" shows how standard gages and components can be incorporated in special and unusual gaging assemblies. Simple solutions to common gaging problems are suggested.

For more details circle NED-904 D1 on enclosed inquiry slip

Lever Action Clutches

V-Belt Clutch Co.—Smooth start and stop automotive type clutching is obtained with the Ball-Lok line of standard and custom lever-action clutches. The unitized pulley and clutch is suited to most V-belt drive situations. Sixteen-page Catalog 40 facilitates the selection of a clutch for a specific job. It covers duplex types for two-speed drives, nonlocking, and varispeed nonlocking types, among others. Price and application data are included.

For more details circle NED-905 D1 on enclosed inquiry slip

Precision Manufacturing Abilities

Hamilton Watch Co., Industrial Products Div.—Loose-leaf data file containing technical data sheets illustrates and describes the broad range of high precision manufacturing abilities of this division. Subjects covered include plate processing, toothed wheels and gears, pinions and arbors, small screws and threaded parts, flat and irregular shaped parts, and supporting services.

For more details circle NED-906 D1 on enclosed inquiry slip

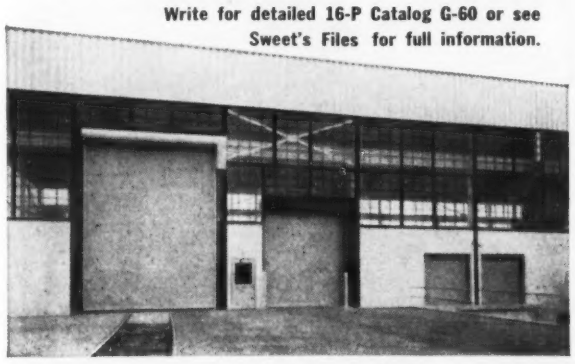
Mahon rolling steel doors

SAVE SPACE
SAVE SERVICE
SAVE COSTS

in sizes and types to fit your application

Rolling Steel Doors are the proven and best way of closing any type opening. For a plant, distribution center or loading dock—in new or remodeled facilities—Mahon has the right Door for the job. Rugged, easy operating, Bonderized (and synthetic baked enamel protected) Steel Doors, power or manually operated, will give you long, trouble-free service. If damaged, they are completely repairable by an experienced Mahon crew . . . service contracts available.

Write for detailed 16-P Catalog G-60 or see Sweet's Files for full information.



MAHON

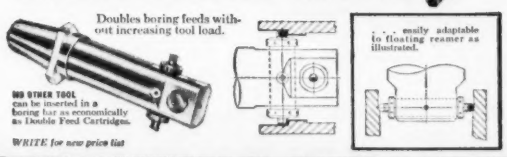
THE R. C. MAHON COMPANY • DETROIT 34, MICHIGAN
Manufacturing Plants—Detroit, Mich. and Los Angeles, Calif.
Sales Offices or Representatives Located in All Principal Cities

For more details circle NED-907 D1 on enclosed inquiry slip

New LOW PRICES . . . same high Quality!

New VERSATILITY . . .

SURE-BORE DOUBLE FEED CARTRIDGES



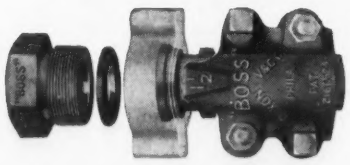
WRITE for new price list

Portage Double-Quick, Inc.
1043 SWEITZER AVENUE • PHONE PORTAGE 2-7425 • AKRON, OHIO

ASTE Show . . . Booth No. 3063

For more details circle NED-908 D1 on enclosed inquiry slip

"BOSS"



WASHER TYPE FEMALE COUPLING STYLE W-16

More Widely Used Than Any Other of Its Kind!

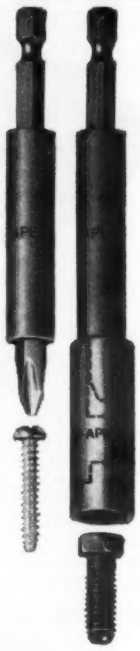
For strong, leakproof connections on hose for every service—steam, air, gas, water, oil, butane, hydraulics—high or low pressure. Furnished with super-strong "Boss" Offset and Interlocking Clamps. All parts (except washer) steel or malleable iron, rustproofed. Deep corrugations on stem smoothly rounded to prevent damage to hose tubes. Sizes ¼" to 6", inclusive.

From Your Hose Supplier or Industrial Distributor

DIXON *Valve & Coupling Co.*
GENERAL OFFICES & FACTORY - PHILADELPHIA 22, PA. BRANCHES - CHICAGO · BIRMINGHAM · LOS ANGELES · HOUSTON · DIXON VALVE & COUPLING CO. LTD. TORONTO
ASSOCIATE COMPANIES: KUCK IRON COMPANY, INC. QUAKERTOWN, PA. / PRECISION DRAWN STEEL COMPANY, CAMDEN, N.J.

For more details circle NED-909 D1 on enclosed inquiry slip

This APEX Socket converts a screwdriver into a nut runner ... in seconds!



In assembly and fastening work, a tool operator may be driving screws one minute, running nuts the next.

To keep this work moving right along, you could use two power tools, or one power tool equipped with a slip chuck, to interchange bits and sockets.

But the best way to make one tool do two different jobs is to use an Apex socket that slips right on over the bit—in just seconds you're ready to run down nuts and bolts. The socket can be removed just as quickly when it's time to drive screws again. The Apex method makes for better, safer work, too, because there are fewer accessories on the tool and consequently far less wobble and looseness.

Apex—the authority on fastening—offers the most complete line of standard and magnetic fastening tools, plus an array of specials that have solved many unusual fastening problems.

CATALOG 30-A Nut Running Tools, ¼" to ⅝" hex, square drives.
CATALOG 30-B Nut Running Tools, ¾" to 3½" hex, square drives.
CATALOG 30-C Screwdriving Tools.

APEX

SCREWDRIVING TOOLS
NUT RUNNING TOOLS
PRODUCTION TOOLS
UNIVERSAL JOINTS

THE APEX MACHINE & TOOL COMPANY
1046 S. Patterson Blvd. • Dayton 2, Ohio

For more details circle NED-910 D1 on enclosed inquiry slip

GRAVELY Versatility KEEPS Power on the job— All Year Long!

Cut expensive idle time
GRAVELY Doesn't Loaf— GRAVELY Works!

When you hire a man for a full-time job, you expect full time work. So why buy one-job equipment that loafs until its specialty is called for?

ONE 6.6 hp. Gravely Tractor powers 30 tools!
Choose the tools to fit your jobs—any season. From mowing to snow removal, the Gravely Tractor keeps busy saving time, saving money, year after year.

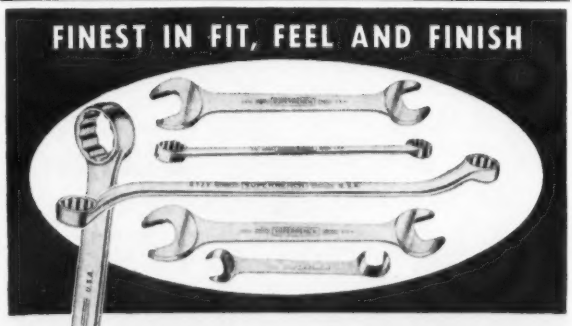
GET THE FACTS—SEE THE PROOF! See Gravely actually solving grounds maintenance problems, saving money. Ask for your FREE copy of "How To Cut Costs for Grounds Maintenance." Or better still, request a FREE demonstration. *Write Now!*

GRAVELY TRACTORS
P. O. Box 668-D Dunbar, W. Va.

SOLD & SERVICED BY AUTHORIZED GRAVELY DEALERS

For more details circle NED-911 D1 on enclosed inquiry slip

FINEST IN FIT, FEEL AND FINISH



WILLIAMS
OPEN-END and BOX
SUPERRENCHES®

Specially selected alloy steel withstands heavy industrial use. Thin heads combine maximum strength with greatest clearance. Precision broached openings are designed for full bearing on all series nuts and bolts. Slim handles and smooth contours provide safe, balanced grip. Drop-forged, heat-treated and chrome plated. Available from your Williams Distributor individually, or in sets.

40 STYLES—OVER 450 SIZES
OPENINGS FROM 3/16" TO 3-1/8".

J. H. WILLIAMS & CO.
DIVISION OF UNITED-GREENFIELD CORPORATION
422 VULCAN ST., BUFFALO 7, N.Y.

WILLIAMS

For more details circle NED-912 D1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

REPRODUCTION PAPERS
copies made for less than 2 cents

Permanent, multiple copies of documents or letters can be made at less than 2 cents per copy using Thermo - Fax Type A Pink Systems and Type B White Systems copy paper. Type A, which serves as the original or master, is used as ordinary office paper for typing, printing, or writing. It erases easily, and a single master will make up to 25 sharp, clear, black-on-white copies on stationery-weight Type B copy paper. Latter is inserted with a Type A master into any Thermo-Fax copying machine and is reproduced in a 4-sec, one-step process. Master can be preprinted with company letterhead and can be typed on or written on repeatedly. • **Minnesota Mining & Mfg. Co.**, Dept. LI-10, 900 Bush Ave., St. Paul 6, Minn.

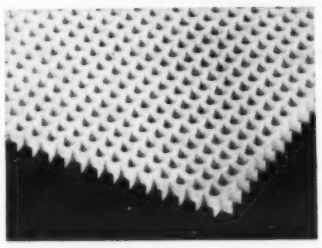
For more details circle NED-913 D1 on enclosed inquiry slip

VINYL FLOOR ENAMEL
resists acid, grease, lime

Vyn-L-Floor, a one-coat vinyl epoxy latex floor enamel dries in 20 min and can be walked on in 1 hr. It can be used on interior and exterior wood, cement, or concrete floors and is easy to maintain, with no waxing necessary. Coating cleans up with plain water. Enamel bonds in damp weather and can even be applied immediately after a rain storm. The dust-free finish is unharmed by acid, grease, lime, and other strong solutions, and is odorless and fumeproof. • **Adelphi Paint & Color Works, Inc.**, 86-00 Dumont Ave., Ozone Park 17, N. Y.

For more details circle NED-914 D1 on enclosed inquiry slip

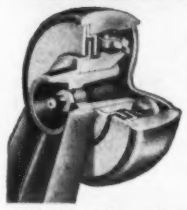
ALUMINUM LOUVERS
for lighting and decorative uses



Adaptable for louvered ceilings and lighting fixtures, Scallop-Cel aluminum louvers introduce texture and warmth into luminous elements, allowing complete freedom of design. Standard modular sizes are 2 x 2, 2 x 4, 3 x 3, and 4 x 4 ft, with special sizes to order. Finishes are baked white enamel, natural Alumilite, and anodized gold. • **Neo-Ray Products, Inc.**, 315 E. 22nd St., New York 10, N. Y.

For more details circle NED-915 D1 on enclosed inquiry slip

R-W 458 CHAIN CONVEYORS



R-W 458 trolleys offer many exclusive and important features . . . features that will pay off through improved service and trouble-free operation with a minimum of upkeep.

For the conveying of light loads, heavy loads or "tow cart" installation, R-W 458 Chain Conveyors provide the ideal method to speed-up production, lower operating costs and achieve a profit-improvement. R-W 458 Chain Conveyors are easy and economical to install, operate and maintain . . . may be added to existing systems. All components, while designed to meet industry standards, are manufactured to conform with R-W's strict quality control procedures that assure you of receiving dependable, long-life service and trouble-free operation. Write today for additional information . . . request your free copy of catalog No. A-570.

RICHARDS-WILCOX MFG. CO.
435 W. THIRD STREET • AURORA, ILLINOIS • Branches in Principal Cities

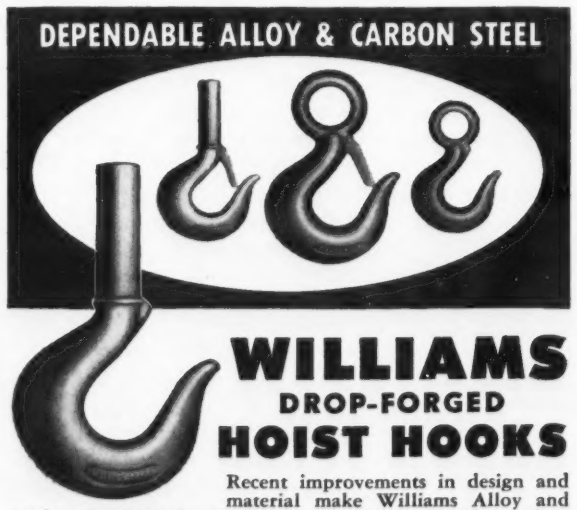
For more details circle NED-917 D1 on enclosed inquiry slip

Porter-Cable
Quality Power Products

PORTER-CABLE MACHINE COMPANY
1124 Marcellus Street
Syracuse 4, N. Y.

For more details circle NED-918 D1 on enclosed inquiry slip

DEPENDABLE ALLOY & CARBON STEEL



WILLIAMS
DROP-FORGED
HOIST HOOKS

Recent improvements in design and material make Williams Alloy and Carbon Steel Hooks the strongest, safest to specify. Each is heat-treated for maximum toughness and high impact resistance. All are proof-tested to military standards to 50% beyond safe working loads. Available in eye and shank styles in regular and safety patterns. Safety latches feature non- corrosive snap springs with positive, safety action. Alloy steel capacities up to 70 tons . . . carbon steel capacities up to 60 tons. Order from your Williams Distributor.

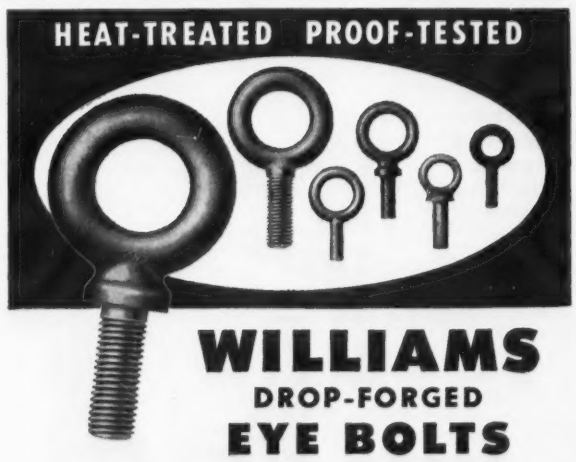
SIXTEEN STOCK SIZES
CAPACITIES UP TO 70 TONS

J. H. WILLIAMS & CO.
DIVISION OF UNITED-GREENFIELD CORPORATION
422 VULCAN ST., BUFFALO 7, N.Y.

WILLIAMS

For more details circle NED-916 D1 on enclosed inquiry slip

HEAT-TREATED PROOF-TESTED



WILLIAMS
DROP-FORGED
EYE BOLTS

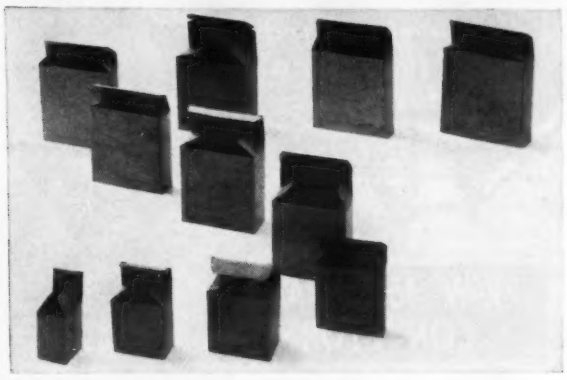
Want service "beyond the call of duty"? Williams Eye Bolts are drop-forged from carbon steel; no welds; specially heat-treated after forging to further increase strength and toughness. Proof-tested to Military Standards *to 50% beyond* safe working loads. Plain and shoulder patterns . . . blank or threaded — they're all dependably yours from your Williams Industrial Distributor.

CAPACITIES UP TO 16 TONS
LENGTHS UP TO 18 INCHES

J. H. WILLIAMS & CO.
DIVISION OF UNITED-GREENFIELD CORPORATION
422 VULCAN ST., BUFFALO 7, N.Y.

WILLIAMS

For more details circle NED-919 D1 on enclosed inquiry slip



64 SIZES IN KRAFT FOLDING BOXES

Extra large inventory assures broadest choice, lowest prices, fastest delivery. Partial list of uses, includes machine parts, metal parts, plastic parts, bearings, auto parts, nursery products, hardware. Sizes range from ⅞" x ⅞" x 1" up to 5¾" x 5¼" x 7".

Ask for free samples, with sizes and price list.

Spark* makes the difference

STONE CONTAINER Corporation
Campbell Division
903 S. Main St., South Bend 23, Ind.
General Offices: 4200 W. 42nd Place, Chicago 32, Ill.

▲ For more details circle NED-920 D1 on enclosed inquiry slip ▲

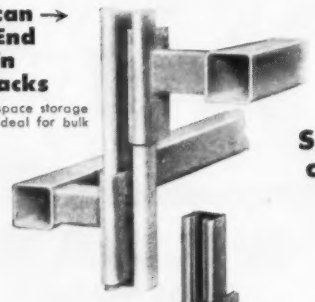
LOOK!.. isn't this American rack installation a beauty?

American Rack installation at the Fleming Company, Topeka, Kansas. On left are open-end, drive-in racks, and on right are selective-type racks.

American
adjustable
STORAGE RACKS

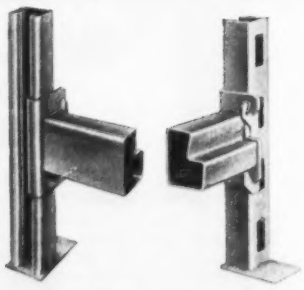
. . . tough and rugged . . . designed to meet your storage problem most efficiently and economically! They've got . . . **SOLID CONSTRUCTION**—posts are specially roll-formed of extra heavy gage steel—stringers are one-piece continuous welded steel tubing—upright frames are cross-braced against sway—turnbuckles "level out" uneven floors . . . **QUICK ASSEMBLY**—all parts hook into place—no costly bolting . . . **EASY ADJUSTABILITY**—stringers work independently of any other part—they raise and lower like a window, on 4" centers . . . **TOP EFFICIENCY**—American racks utilize every inch of storage space—they save you time, labor and money from the very start of installation—they provide industry's highest safety factor for utmost protection.

American → Open-End drive-in type racks
make aisle space storage space . . . ideal for bulk storage



Sturdy, load-carrying stringers are made of rugged square tubing from one end of a row to the other.

Send for catalog



American → Slide-n-Lock selective type racks
for all types of merchandise, from light packages to heavy metal products.

Smooth line construction of aisle side of post and stringer eliminates hazardous protrusions. Note rigid connection when stringer is "locked" to post.

AMERICAN METAL PRODUCTS CO.
STORAGE RACK DIVISION
5977 Linsdale Ave. amp Detroit 4, Michigan

Manufactured in Canada by Sunshine-Waterloo Co., Ltd., Waterloo, Ontario

▲ For more details circle NED-921 D1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Essential Factory Equipment

American Pressed Steel Corp., Standard Equipment Div.—56-pages of industrial equipment of many types are contained in this "New Ideas and New Products Catalog." A few of the many products listed, with basic information and prices, are bins, cabinets, boxes, scales, shelving, tables, benches, platform trucks, parts cabinets, drum handling equipment, pumps, heat application equipment, office furniture, receptacles, fire extinguishers, shipping room equipment, and materials handling equipment of many types.

▲ For more details circle NED-922 D1 on enclosed inquiry slip ▲

Electrical/Mechanical Positioners

Hanna Engineering Works—Hanna-Powr electrical/mechanical positioners automatically position machine regulating devices to any of several predetermined positions corresponding to a remote control selector switch signal. Data provided in 10-page Bulletin 500A enable engineers to figure ways of applying these positioners to air-hydraulic power cylinders and motorized screw drives.

▲ For more details circle NED-923 D1 on enclosed inquiry slip ▲

Moldable ABS Plastics

United States Rubber Co., Naugatuck Chemical Div.—28-page booklet entitled "Kralastic for Product Engineering and Design" contains physical and chemical properties for a family of high-impact, moldable ABS plastics. Design information on more than a score of molded products made from this material is also given. Plastic combines toughness and strength with lightness and rigidity.

▲ For more details circle NED-924 D1 on enclosed inquiry slip ▲

Rolling Doors & Industrial Partitions

Cookson Co.—Steel and aluminum rolling service doors UL-labeled Servire fire doors, steel and aluminum rolling and side-coiling grilles, extruded Alumilited aluminum counter doors, and wood side-coiling partitions are detailed in 20-page full-color Catalog 6101. Data aid in selecting and adapting doors and partitions to industrial needs.

▲ For more details circle NED-925 D1 on enclosed inquiry slip ▲

Magnetic Ink Check Coding

A. B. Dick Co.—One hundred and forty-two of the most frequently asked questions about magnetic ink check encoding are answered in 48-page booklet. It discusses American Bankers' Association specifications for Magnetic Ink Character Recognition, requirements and costs for check imprinting installations, and techniques of imaging masters, check imprinting, and quality control.

▲ For more details circle NED-926 D1 on enclosed inquiry slip ▲

Castings Repair Method

Metalock International, Inc.—The Metalock cold repair method for cracked and broken castings and forgings restores the compressive strength and tensile strength to the damaged part. File folder catalog describes this repair service for compressors and cylinders, steam engines, turbines, mills and blowers, presses, shafts, and engine and machinery parts.

▲ For more details circle NED-927 D1 on enclosed inquiry slip ▲

Adjustable Speed Drives

Louis Allis Co.—Adjustable speed drives outlined in 6-page Bulletin 2900 cover applications in the ¾ to 2500-hp drive range. It describes four completely packaged drives with data on ratings, speeds, enclosures, controls, and available modifications.

▲ For more details circle NED-928 D1 on enclosed inquiry slip ▲

Industrial Safety Gratings

Bustin Steel Products, Inc.—"Safety Handbook" No. 75 is a design manual of industrial safety gratings and assemblies. It features Firm-Grip grating and Protecto-way grating for such uses as outdoor conveyor ramps, stair treads, load tables, platform decks, grilles, cross-overs, portable stairs, and floors.

▲ For more details circle NED-929 D1 on enclosed inquiry slip ▲

Fast Riveting Techniques

Townsend Co., Cherry Rivet Div.—The advantages of using Cherry Commercial rivets for fast, secure, and economical fastening in blind or open applications are detailed in 12-page Bulletin TCL-160. Specs are given on plugged (structural) and hollow (nonstructural) types in aluminum, mild steel, and Monel.

▲ For more details circle NED-930 D1 on enclosed inquiry slip ▲

BARRETT MODEL J-R SINGLE-STROKE LIFT-TRUCK

BARRETT Model J-R is the lowest priced work horse of ALL lift-trucks. Built for rough, hard handling jobs 2500- to 4000-lb. capacity loads from 30" to 72" long. Lift 1⅝" to 2⅝" standard. ONE STROKE raises skid—step on release treadle and hydraulic check lowers load gently.

Barrett Model J-R fits any type skid—just run truck under skid. One handle stroke lifts.

WRITE FOR LOW PRICES AND BULLETIN 555-1

BARRETT-CRAVENS COMPANY
650 Dundee Road, Northbrook, Illinois
Representatives in All Principal Cities

BARRETT
ONE MAN DOES MORE THAN 3 OR 4 ...WITH A BARRETT

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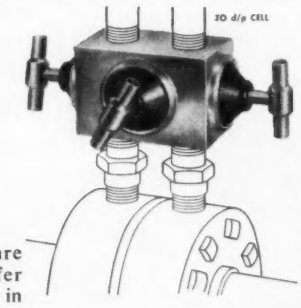
LOW COST VALVE MANIFOLDS ELIMINATE BY-PASS VALVES, FITTINGS, PIPING!



Dahl DEMI Miniature Packless Valves offer great porting versatility in isolating, routing and by-pass applications. For example . . . three-way manifold, used across a flow metering, differential sensing device allows it to be zeroed or isolated from line for test . . . reducing size and cost of installation.

Patented basic design offered in forty-three styles . . . with metal-to-metal seating, TEFLON seats, or neoprene diaphragms . . . all featuring bubble tight shut-off.

Low cost "DEMI G" valves, in ⅛" to ½" N.P.T. sizes, provide positive control in minimum space. Many actuating devices. Wide selection of construction materials.

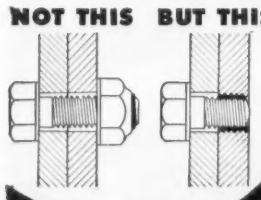
REQUEST free 32-page Catalog D-1 for complete details. G. W. Dahl Co., Inc., 88 Tupelo Street, Bristol, Rhode Island.

G. W. DAHL CO., INC.
SPECIALISTS IN COMPACT VALVES AND CONTROLS

G. W. DAHL · G. W. DAHL · G. W. DAHL · G. W. DAHL

▲ For more details circle NED-932 D1 on enclosed inquiry slip ▲

NOT THIS BUT THIS



How to Lock Screws in Threaded Assemblies without LOCK NUTS, LOCK WIRING, LOCK WASHERS

Meeting military specifications for torque and vibration, the new, one-piece stainless steel (18-8) *HELI-COIL*® Screw-Lock Insert provides permanent, non-corrosive, strip-proof threads, *plus an exclusive internal locking feature* that:

- positively locks screws against loosening under impact and vibration
- protects threads against wearing, galling, and seizing
- eliminates the cost, weight and space of lock nuts or lock wiring and provides designs free of clumsy protruding parts
- offers high re-usability on repeated assembly and disassembly.

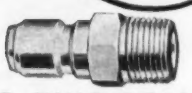
You can specify Screw-Lock Inserts for original design, production salvage, maintenance and repair in many materials... ferrous and non-ferrous metals—aluminum, magnesium—etc. Available in many sizes, *including the new miniature 4-40 size.* For more information write:

HELI-COIL CORPORATION
3404 Shelter Rock Lane, Danbury, Conn.
In Canada: ARMSTRONG BEVERLEY ENGINEERING LTD.
6975 Jeanne Mance St., Montreal 15, Que.

▲ For more details circle NED-933 D1 on enclosed inquiry slip ▲

HANSEN SERIES ST

STRAIGHT THROUGH QUICK-CONNECTIVE COUPLING... WITHOUT SHUT-OFF VALVES



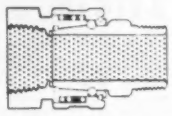
O-RING SEAL

● Smooth unrestricted bore permits full flow without pressure drop. Plug automatically locks in place when connected to Socket—is readily disconnected merely by pulling back Socket Sleeve.

Available with bore diameters from 1/4" to 2 1/2" inclusive. Furnished with brass sockets and either brass or steel Plugs—and with female pipe thread, male pipe thread, or hose stem connections.

Hansen Series ST Straight Through Couplings are now also available in stainless steel with bore diameters up to 2" inclusive—with female pipe thread or male pipe thread connections in commonly used sizes.

Shaded section shows free flow of liquid or gas through connected Hansen Series ST Coupling.



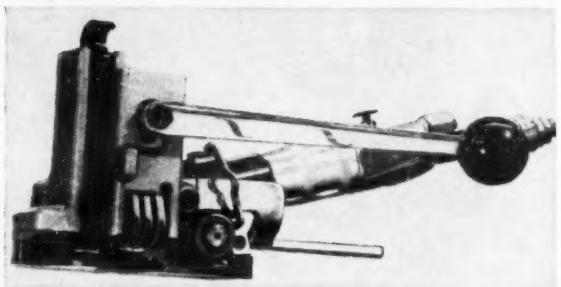
Write for the Hansen Catalog

a ready reference when you want information on couplings in a hurry. Lists complete range of sizes and types of Hansen Two-Way Shut-Off, One-Way Shut-Off, and Straight Through Couplings.

Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

▲ For more details circle **NED-934 D1** on enclosed inquiry slip ▲



New Flat Strap Pneumatic Stretcher Tensions, Seals and Cuts Strap in Less Than a Second

This tool will tension, seal and cut properly applied flat strap in less than a second. Fast, easy strap loading. Seals feed automatically. Operating handle completes seal and cuts strap. Tool weighs only 12½ lbs. Built-in suspension brackets for fast, easy handling. Demand to see this tool. *Full details.* Circle the reader service card, or write:

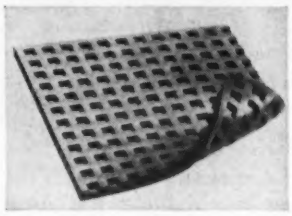
A.J. GERRARD & COMPANY / STRAPPING MATERIALS

410 East Touhy Avenue • DES PLAINES, ILLINOIS

▲ For more details circle **NED-935 D1** on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

VIBRATION ABSORBING MATERIAL for machine and equipment mounting



In addition to absorbing vibration and shock, Fabcel machine mounting material also minimizes noise. It is made of molded oil-resistant neoprene and uses a multicell suction principle to anchor the machine to the floor and prevent its movement, even without bolting. The pads are easily cut to the required size. ● **Durant Tool Co.**, 12 Thurbers Ave., Providence 5, R. I.

▲ For more details circle **NED-937 D1** on enclosed inquiry slip ▲

STRIPPABLE VINYL COATING protects metals during handling

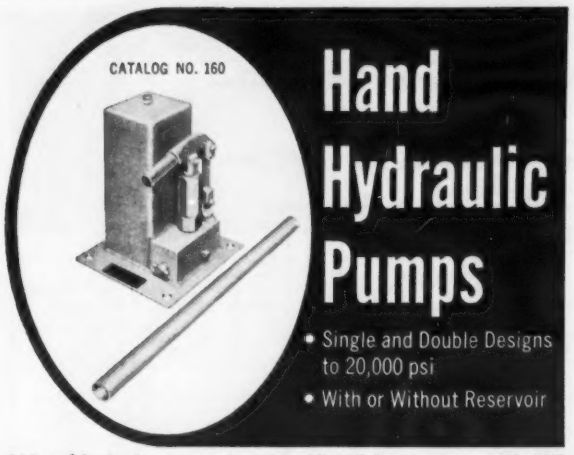
Polished, embossed, and coated metals are protected during fabrication, storage, and shipping by Strip-Gard vinyl strippable coating applied by reverse roll, spray, dip, flow, or conventional roll methods. Applied to a dry film thickness from 2.0 to 2.5 mil, the clear Geon coating is extremely flexible, allowing metal to be corrugated, embossed, roll formed, or drawn, in many cases without lubrication. Coating resists oil and grease, corrosive chemicals, and will not discolor or become brittle when exposed to weather for up to six months. Cost of application is estimated at 1 cent per square foot. ● **Stoner-Mudge Co.**, 2000 W. Hall St., Pittsburgh 33, Pa.

▲ For more details circle **NED-938 D1** on enclosed inquiry slip ▲

EXPANDED METALS patterns made in various metals

Machine guards, appliances, and decorative uses are among the many applications for expanded metals, produced in various patterns and meshes, both standard and special. They are made from coils and sheets of carbon and stainless steels, aluminum, brass, copper, and precious metals. Variety of standard gages, plain or flattened, is offered. Veri-Fine mesh for electronic and other uses is made in copper and silver. A free folder shows samples of available patterns and gives prices. ● **Niles Expanded Metals Co.**, 6 N. Pleasant Ave., Niles, Ohio.

▲ For more details circle **NED-939 D1** on enclosed inquiry slip ▲



160 cubic inch reservoir with 8"x 8" base plate and 18" long handle.

Available with optional size pistons ⅜", ½", ¾", 1" and 1½".

We specialize in the manufacture of hand pump units which operate in temperatures from −65° F. to +160° F. and with any capacity reservoirs required. Pumps can be furnished on special order with custom seals to handle various aircraft types of fuels such as Pydraul, Skydrol, Oronite, etc.

The single pump with ½", ¾", 1" or 1½" piston is now available in stainless steel.

for additional information write:

WILLIAM S. PINE
hydraulic hand pumps for 1001 uses
1635 East 22nd St., Los Angeles 11, Calif.

▲ For more details circle **NED-940 D1** on enclosed inquiry slip ▲

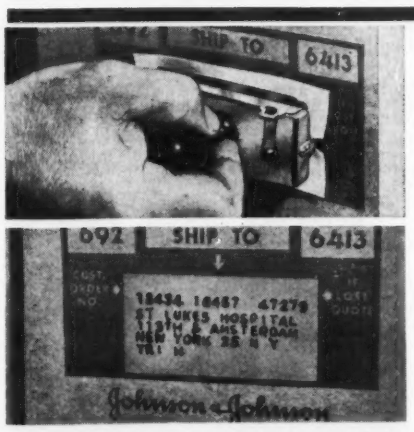
Take your pick... 1, 2 or 3 normally open, normally closed electrical circuits

What does your limit switching application call for . . . one, two or three normally open, normally closed electrical circuits? Whatever it is, one of these National Acme SL "Machine Life" Limit Switches . . . the SL2, the SL3 or the SL4 . . . will meet your precise requirement. And, every SL offers . . . a variety of cam arrangements for extreme operating flexibility . . . ample overtravel (67°) and by-pass (90°) . . . light operating pressure (10½ lbs. at 1½" radius). Also available . . . the SLS 2, 3 or 4 featuring "hi-shock" sliding contacts; particularly suitable for drop forge, punch press and other heavy equipment application. Call, write or wire for complete information.

National Acme
THE NATIONAL ACME COMPANY
182 E. 131st STREET
CLEVELAND 8, OHIO

Sales Offices: Newark 2, N. J., Chicago 6, Ill., Detroit 27, Mich.

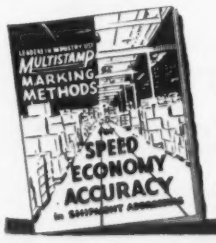
▲ For more details circle **NED-941 D1** on enclosed inquiry slip ▲



With "Ship To" frame pre-printed by carton maker, shipping clerk uses Multistamp Duplicator to address up to 1000 pieces of the same shipment with the same low-cost stencil . . identically, accurately, quickly, easily.

Multistamp® Stencil Addressing System Quickest Way for Volume Shipping

Using Multistamp FORM-CUT stencil, printing the form and fill-in data at the same time is an easy, one man—one hand—operation. Your form is custom die-cut in the stencils . . you fill them in with ball point pen or typewriter.



VOLUME-PAK Stencils
both plain and FORM-CUT save big money for quantity users. One-day service on repeat FORM-CUT stencil orders . . less than 10 days on new orders.

Write Today for your Free copy of the illustrated new how-to- (and why) book about the MULTISTAMP Marking Methods.

MULTISTAMP STENCIL DUPLICATOR®
THE MULTISTAMP CO. NORFOLK, VA.

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I'VE HEARD ENOUGH

ABOUT SELF-TUNING ULTRASONIC CLEANING

to know that the only way to make it foolproof is by feedback control, and that only Powertron's Autosonic cleaner has it. Feedback control keeps it electronically tuned to peak cleaning efficiency, regardless of load conditions or temperature, and makes it truly self-tuning—no meter reading or dial setting—just flip a switch—and it's guaranteed to clean almost anything better, cheaper, and faster.

A complete line of Powertron Autosonic cleaners is available from 2 gals. to 75 gals.—from 100 watts to 3,000 watts—from $395. to $6,000.

A ten-minute demonstration in your plant will prove what feedback control can do for your ultrasonic cleaning problems. Just check your cleaning application, and mail the coupon.

Cleaning
- ☐ Electrical assemblies
- ☐ Mechanical assemblies
- ☐ Circuit boards
- ☐ Laboratory glassware
- ☐ Surgical instruments
- ☐ Engine parts
- ☐ Ceramic components
- ☐ Metal parts
- ☐ Other
- ☐

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- ☐ Buffing compounds
- ☐ Shop dirt
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Check here if you'd like a free copy of our technical bulletin, "How to Clean Ultrasonically with Self-tuning.

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POWERTRON ULTRASONICS CORP.
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GARDEN CITY, LONG ISLAND, NEW YORK • Pioneer 1-3220

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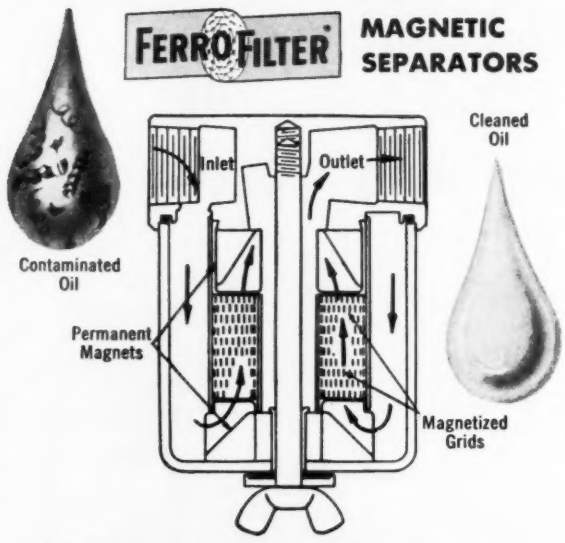
FERROFILTER® MAGNETIC SEPARATORS



FERROFILTERS keep ferrous particles out of Hydraulic and Lubricating Oil Systems

Write for complete information

S. G. FRANTZ CO., Inc.

564 Kline Ave. at Brunswick Pike Trenton 6, N. J.

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NEW LITERATURE and CATALOGS

Dual Element Fuses

El-Tronics, Inc., Monarch Electric Div.—High interrupting capacity, cool operation, and positive time delay are features of Fuseking dual element fuses, subject of 12-page brochure. Specifications and technical data on knife blade and ferrule types are presented. Ratings are up to 600 amp and 600 v.

▲ For more details circle NED-945 D1 on enclosed inquiry slip ▲

Twist Drills

American Twist Drill Co.—98-page twist drill catalog covers the entire American line, including high speed steel, carbide tipped, solid carbide, drills for hard steel, and special twist drills. Helpful drill pointing and engineering data are included, along with a price list.

▲ For more details circle NED-946 D1 on enclosed inquiry slip ▲

Mold Releasing Agents

Injection Molders Supply Co.—"Buyer's Guide to Silicone and Other Mold Releases" is a 16-page pocket-size booklet that lists all types of parting agents from a 9-oz can to the 44-oz Imperial size. Included are silicone type greases, rust preventives, and information on how to use and where not to use silicones. Prices are given.

▲ For more details circle NED-947 D1 on enclosed inquiry slip ▲

Silicones

Union Carbide Corp., Silicones Div.—16-page illustrated booklet "Silicones" is complete with pictures, charts, graphs, and tables on various forms of this product. Properties of silicones and various compounds such as fluids, resins, rubber, water repellants, antifoams, and emulsions are detailed.

▲ For more details circle NED-948 D1 on enclosed inquiry slip ▲

Prestacked Retaining Rings

Industrial Retaining Ring Co.—Series 3000 internal retaining rings and Series 3100 external rings are prestacked to save time, permit automation, and simplify inventory control. Respectively described in Catalogs 30 and 31, they are offered in sizes from 0.250 to 1.375 in., in stacks of 250 rings. They are also available in bulk, in sizes from 1 7/16 to 4⅛ in. Specifications and prices are given.

▲ For more details circle NED-949 D1 on enclosed inquiry slip ▲

Engineering Data Books

Lefax Publishers—Revised 1961 catalog is descriptive of the complete library of Lefax pocket-size loose-leaf Engineering Data Books. Typical of subjects covered by individual books are hydraulics, heat engineering, chemical engineering, machine design, steel forms and shapes, metallurgy, conversion tables, and mechanical engineering. Each of these $1.50 handy reference books contains 140 pages of up-to-date, condensed, authoritative data for engineering, production, and maintenance executives.

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There's an Easier Way!

Break away from old-fashioned cutting methods . . . save time, temper and patience. Now . . . zip through 3/16" aluminum, Fiberglas, plastics, plastic laminates, even 16-gauge steel, with minimum effort . . . maximum speed . . . with the KETT Panel Master Saw. Its performance is outstanding on metal laminates such as Mirawal, Metlwal, Met-L-Wood and Amorply. 2½" diameter saw blades give full ⅝" depth cut. Leaves accurate, smooth milled edge that requires no sanding or finishing. Amazingly easy to use . . . extra rugged for long, hard service.

Powered by heavy duty, industrial type 110 volt AC/DC portable 5/16" capacity electric drill motor. Ball bearing equipped drive for smoother operation.

Write for Catalog E-64

KS-3AM Panel Master Saw

THE KETT TOOL COMPANY
5051 Madison Rd.
Cincinnati 27, Ohio

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LESS LINER, MORE COATING,
BETTER PROTECTION, LONGER WEAR . . .

NORTH PVC GLOVES

These features, combined with better fit, more comfort, greater dexterity, and maximum resistance to chemicals, oils, greases, etc., mean lower coated glove costs, higher worker output.

For outstanding hand-to-shoulder protection with an uncoated material, insist on Jomac terry cloth gloves, hand guards, pads, mitts and safety sleeves. The loop-pile fabric is long-lasting, cut, abrasion and heat-resistant—and washable.

To keep dry, comfortable and safe in foul weather, insist on North PVC Wet-Weather Clothing . . . tough, flexible, nonaging, waterproof, resistant to abrasion and most oils, greases and chemicals. Available in high-visibility safety yellow.

WRITE TODAY FOR FOLDER DESCRIBING THESE OUTSTANDING PROTECTIVE PRODUCTS BY JOMAC

JOMAC Jomac Inc., Dept. G
Philadelphia 38, Pa.

In Canada: James North Canada Company Ltd., Simcoe, Ont.

"JOMAC Sells Quality . . . and Quality Sells JOMAC!"

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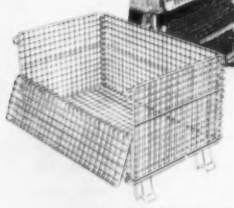
PALLETAINERS® AT WORK . . . CUTTING PRODUCTION COSTS!

Palletainers speed machine and production line operations.

Write Today . . . for complete information on the complete Palletainer line.

Palletainers stack to the rafters . . . safely. Products stay clean, safe—always visible.



● Palletainers handle *anything* better! They increase your production efficiencies, improve your plant's appearance and quickly pay for themselves in manhours and space saved. Palletainers are practically indestuctible . . . built to endure rough, fast handling for years to come. They are available in a wide range of sizes, types, styles and loading capacities from 250, 500, 1250, 2000, 4000 to 6000 pounds per unit.

Why not see for yourself how USP Palletainers . . . or the new small size 'Juniors'—could save time, money and effort in *your* plant.

● **You may try regular Palletainers . . . or the new small size 'Juniors' in your own plant on a 60-day memo billing basis. Your obligation is freight only!**

UNION STEEL PRODUCTS CO.
505 N. Berrien Street
ALBION, MICHIGAN

▲ For more details circle NED-944 D1 on enclosed inquiry slip ▲

Mecco SAFETY UTILITY MARKING OUTFIT

A product of the Marking Device Industry

M. E. CUNNINGHAM CO.

1055 CHATEAU STREET, PITTSBURGH 33, PA.

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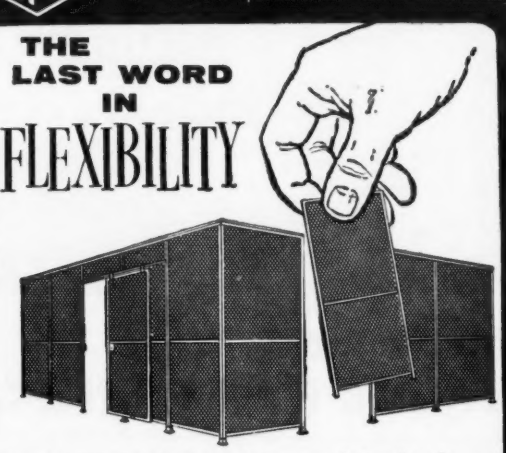
WIPCO WIRE PARTITIONS

THE LAST WORD IN FLEXIBILITY



WIPCO woven-steel wire partitions are designed to fit any area, regardless of height, location of doors and other openings, etc. Easy and economical to erect, your own men can put them up without outside help! Use them over and over again, salvaging each individual section for use in new erections. Available in *standard* sections from stock—or *custom-built* for any requirement, WIPCO partitions are easy to paint and clean—require little or no maintenance! For increased efficiency and flexibility at lower cost, get the facts on WIPCO wire partitions!

Write Today for Bulletin P-55!

WIRE & IRON PRODUCTS INC.

1727 SIXTEENTH STREET, DETROIT 16, MICHIGAN

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NEW MATERIALS AND PROCESSES

FLOOR PATCH MATERIAL
repairs take traffic immediately

Improved Magic Floor patch material makes possible immediate traffic upon repair of concrete, wood, wood block, brick, and steel floors. Material contains shatter-proof aggregates and does not require mixing, troweling, or drying time. It feather-edges well and can be rolled in with wide wheeled industrial trucks without sticking to truck wheels. Material is shipped in polyethylene-lined drums along with floor primer adhesive. • **Ranco Industrial Products Corp.,** 13311 Union Ave., Cleveland 20, Ohio.

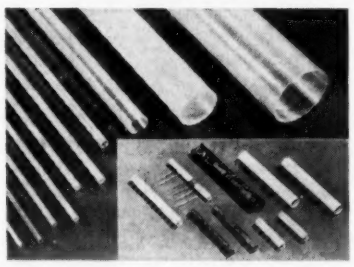
▲ For more details circle NED-956 D1 on enclosed inquiry slip ▲

PRESSURE-SENSITIVE ADHESIVE
permits easy label removal

Excellent removability characteristics are exhibited by K-6 adhesive used on company's pressure-sensitive label material. Adhesive is available in three stock materials; White Gloss; Flex, a limp but durable label paper with resistance to grease, heat, water, soap, and dilute acids; and WLP, a lightweight paper stock adaptable for curved surfaces. Adhesive makes possible special-message, point-of-purchase, price marking, and other temporary labeling, as well as protective masking of watch cases and lenses. Used to identify flat acrylic sheets, labels are removable in 30 to 100° F temperatures without leaving a residue. Adhesive resists sunlight ten times better than earlier products. • **Avery Label Co.,** 1616 S. California Ave., Monrovia, Calif.

▲ For more details circle NED-957 D1 on enclosed inquiry slip ▲

MYLAR TUBING
in diameters from 0.04 to 8 in.



Impervious to solvents, chemicals, corrosion, and fungus, Mylar tubes are available in 0.04 to 8-in. ID. They have a dielectric strength of 2500 v/mil, continuous heat resistance of 300° F, and are rated Class B as insulation. Tubes are usable as coil forms, slot liners, capacitor jackets, wire insulation, electronic equipment shafts, and as chemical tubing or piping. • **Resinite Corp.,** 6984 N. Central Park Ave., Chicago 45, Ill.

▲ For more details circle NED-958 D1 on enclosed inquiry slip ▲

LepeL

High Frequency Induction

HEATING EQUIPMENT

For Hardening • Annealing • Soldering

Brazing • Zone Refining • Crystal Growing

ELECTRONIC TUBE GENERATORS:
1 kw; 2½ kw; 5 kw; 10 kw; 20 kw; 30 kw; 50 kw; 75 kw; 100 kw.

SPARK GAP CONVERTERS:
2 kw; 4 kw; 7½ kw; 15 kw; 30 kw.

WRITE FOR THE NEW LEPEL CATALOG 36 illustrated pages of valuable information.

LepeL HIGH FREQUENCY LABORATORIES, INC.

55th ST. & 37th AVE., WOODSIDE 77, N. Y.

CHICAGO OFFICE: 6246 WEST NORTH AVE.

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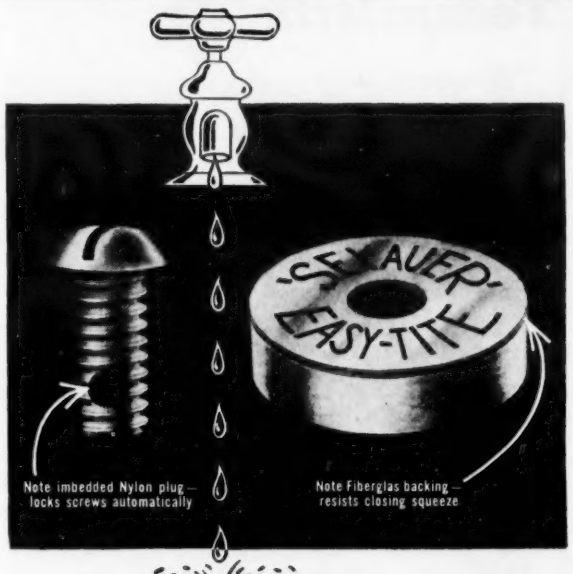


New Way to Stop Faucet Leaks!

★ 9-in-10 washers are fastened with TOO LONG or SHORT SCREWS thus loosen and destroy themselves. Leaks quickly follow!

34 YEARS OF RESEARCH REVEALS NEW SOLUTION

★ New, patented 'Sexauer' SELF-LOCK screws have imbedded expanding NYLON PLUG. They lock at required depth AUTOMATICALLY, hold washers firmly! Made of MONEL, they are rustproof, non-corroding. Heads can't twist off. Screw slots can't distort.

★ NEW, improved 'SEXAUER' EASY-TITE faucet washers are made of super-tough, pliable du Pont compound (not rubber or fibre). Reinforced with a vulcanized layer of Fiberglas, they resist distortion and splitting from shut-off grind and squeeze.

★ Faucet leaks repaired with 'Sexauer' EASY-TITE faucet washers and SELF-LOCK screws outlast ordinary repairs "6-to-1"!

HIDDEN COSTS OF FAUCET LEAKS!

Hackensack, N. J. Water Co. and American Gas Association figures prove stopping just ONE PIN-HOLE SIZE (1/32") LEAK saves you 8,000 gal. water quarterly. A HOT WATER FAUCET LEAK repair saves you over $7.58 QUARTERLY in fuel and water bills. Fewer leaks also produce important savings on MATERIALS, LABOR and COSTLY FIXTURE REPLACEMENTS!

A 'Sexauer' Technician will make available our NEW Catalog, Edition "J", listing our entire line of over 3,000 TRIPLE-WEAR plumbing repair parts and tools. He will survey your fixtures, determine the repair parts needed and establish an efficient stock arrangement and control to prevent costly overstocking or shortages. You get this service without obligation. *Act now!*

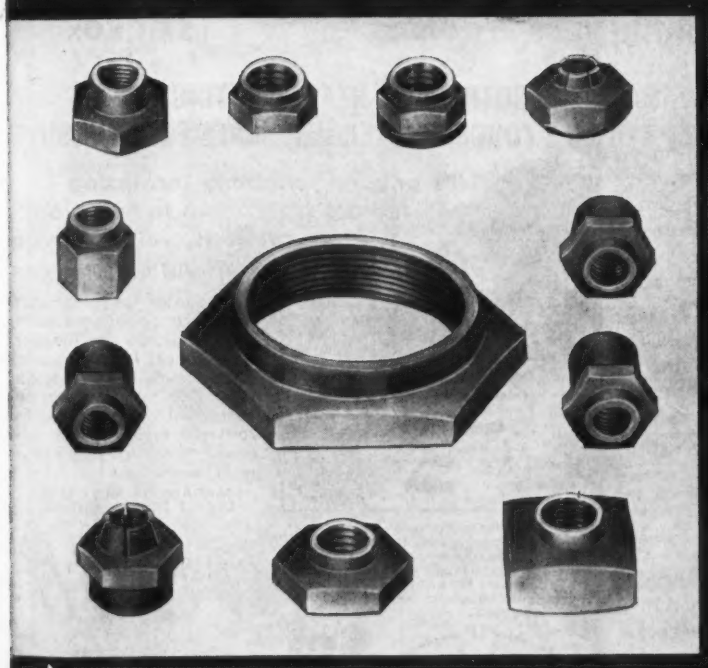
J. A. Sexauer Mfg. Co., Inc., Dept. AU-41
2503-05 Third Ave., New York 51, N.Y.
Please send me a copy of your NEW Catalog "J"
Name _____ Title
Organization _____
Bus. Address _____
City _____ Zone ____ State _____

SEXAUER

WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

▲ For more details circle NED-960 D1 on enclosed inquiry slip ▲

SPECIAL LOCKNUTS . . . *that solved fastening problems*



As the largest specialized nut manufacturer in the world we are constantly developing new methods and products for this phase of assembly in industry . . . in the field of locknuts we have made spectacular progress. Besides standardized hexagon "Conelok," "Huglock" and "Marsden," sizes #10—3" of ferrous and non-ferrous materials, we provide many special application nuts, upon a basis of these designs . . . a few of which are here shown . . . Our sales and engineering departments are available to help you solve your fastening problems . . . Send for 12-page condensus catalog, it includes complete specifications of our entire product, as well as engineering data. We also have an one hundred and forty four page catalog where more comprehensive information is required.

Manufacturers of Standard and Special ferrous and non-ferrous Hexagon, Square and "12 Pointer" nuts . . . "Conelok," "Huglock" and "Marsden" locknuts.

NMP

NATIONAL MACHINE PRODUCTS COMPANY

an SPS company 44250 UTICA ROAD UTICA, MICHIGAN

▲ For more details circle NED-955 D1 on enclosed inquiry slip ▲

COUNT MEASURE CHECK WITH ULTRASONIC SOUND

Sonac is the registered trade mark of the Delavan Mfg. Company

Sonac's beam of ultrasonic sound waves will sense, count, control or monitor under conditions that foil other sensing and switching devices. Sonac doesn't need to see . . . requires no light of any kind . . . will work in contaminated atmospheres, darkness, and can even be piped through flexible hose or tubing. Sonac is unaffected by industrial vibration. Fully transistorized amplifier and hermetically sealed sensor construction require no maintenance. Easy to install. For complete information on new Sonac Ultrasonic Control, call, wire or write Aro today.

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Aro of California, 3141 S. Grand Ave., Los Angeles 7
Offices in all Principal Cities

For more details circle NED-964 D1 on enclosed inquiry slip

Tempilstik°

*temperature indicating crayons**

*Also Tempil° Pellets and Tempilaq° (liquid form)

Tempilstik°—a simple and accurate means of determining preheating and stress relieving temperatures in welding operations. Widely used in all heat treating—as well as in hundreds of other heat-dependent processes in industry. Available in 80 different temperature ratings from 113°F to 2500°F . . . $2.00 each.

Send for free sample Tempil° Pellets. State temperature desired . . . Sorry, no sample Tempilstiks°.

Most industrial and welding supply houses carry Tempilstiks° . . . If yours does not, write for information to:

ADVERTISING DIVISION

Tempil° CORPORATION
132 West 22nd St., New York 11, N. Y.

For more details circle NED-965 D1 on enclosed inquiry slip

CONTROL COSTLY PIPE MOTION

Flexonics METAL HOSE

Your Flexonics distributor is a "Pipe Motion Specialist." Let him analyze your pipe motion problems, make recommendations that minimize equipment maintenance, prolong its life. He has a large inventory of standard hose and fittings . . . is equipped to fabricate complete assemblies to your specifications.

For fast, dependable local service call your

IH-445

Write for your free copy—FLEXONICS METAL HOSE CATALOG.

Flexonics
PIPE MOTION SPECIALISTS
Authorized Distributor
FLEXONICS CORPORATION
362 East Devon Ave., Bartlett, Ill.
SUBSIDIARY OF CALUMET & HECLA, INC.

For more details circle NED-966 D1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Spherical & Rod End Bearings

Southwest Products Co.—Data on Monoball self-aligning bearings and rod end bearings are contained in 56-page 1961 Catalog No. 551. Included is the new Dyflon plastic alloy insert type self-lubricated bearings in plain and rod end types in bore sizes to 6 in. Also shown are stainless steel, plastic alloy, and chrome alloy steel bearings.

For more details circle NED-967 D1 on enclosed inquiry slip

Single Spindle Chucking Automatics

Warner & Swasey Co.—Using many detailed line drawings and photos, 32-page Form 5803 presents interesting application ideas for 1AC, 2AC, and 3AC single spindle chucking automatics. Information on workpieces, tooling, machine functions, setup, and methods is provided. These high production turning machines are equally efficient on small, medium, or large job lots.

For more details circle NED-968 D1 on enclosed inquiry slip

Drill Bushing Guide

ACE Drill Bushing Co.—All ASA drill bushing sizes are shown in 1961 Catalog with the new symbols and nomenclature recently adopted by the association. Listing contains complete technical data on both ground and unground press fit, head press fit, fixed and slip renewable bushings, liners and head liners. Catalog includes 6800 symbols with comparisons to new ASA symbols.

For more details circle NED-969 D1 on enclosed inquiry slip

Vibration Controlling Mount

American Felt Co.—"Controlling Vibration with Vibra-Mount" is an 8-page brochure which describes the Perf-O-Grip Vibra-Mount pad for damping vibration in equipment ranging from the very sensitive precision type to heavy industrial machines. Over 50 types of equipment with which the mount can be used are listed. General purpose type for 10 to 50 psi loads and heavy duty type for loads over 50 psi are available.

For more details circle NED-970 D1 on enclosed inquiry slip

Pipe & Tubing Measurement

Aeroquip Corp.—"How To Measure and Relate Pipe, Tubing, and Hose Sizes" is a 16-page booklet that supplies standard methods of measurements. It also discusses standard practices of measuring adapters and complete assemblies.

For more details circle NED-971 D1 on enclosed inquiry slip

Carbide-Tipped Saws & Tools

Victory Carbide Saw & Tool Co.—Combining the utility of a catalog with the guidance of a handbook, 20-page guide to carbide-tipped saws and tools describes standard rip, cross-cut, thin-rim, and hollow-ground blades for cutting wood, metal, plastics, and other materials. Also detailed are split blades, gang saws, dado head sets, groovers, shaper heads, router bits, and other carbide-tipped tools and accessories.

For more details circle NED-972 D1 on enclosed inquiry slip

Chain Drive Horsepower Ratings

Foote Bros. Gear & Machine Corp.—Feature of the new Whitney Chain Catalog is a quick selection chart. Also presented is the new ASA horsepower ratings proposed for adoption. This engineering guidebook describes the entire Whitney line of power transmission chain drives, and it presents integrated chain and sprocket engineering and application data.

For more details circle NED-973 D1 on enclosed inquiry slip

Thermocouples & Accessories

Advanced Dynamics Inc.—60-page "1961 Catalog" contains complete specifications and prices on thermocouples, pressure probes, and allied components. All data are arranged in logical form to make this an easy buying reference.

For more details circle NED-974 D1 on enclosed inquiry slip

Protecting a Vital Building Service

Otis Elevator Co.—Under the above title, a 24-page manual explains how Otis engineered maintenance of elevators protects a building's earning power, market value, and service to its occupants. The economy of preventive maintenance is clearly "spelled out." On-the-job photos show typical steps in efficient pit-to-penthouse procedure which keeps elevators operating as new, even after decades of service.

For more details circle NED-975 D1 on enclosed inquiry slip

Now—ONE AMMETER for both AC and DC

TONG TEST is the only ammeter of its type that measures both alternating and direct current. Get instant readings, without shutting down equipment, by merely snapping tongs around electrical conductor. Interchangeable ranges up to 1000 amperes, impossible to read wrong scale. Eight types of TONG TEST available for conductors up to 3⅞" diameter or bus bars up to 4½" x ½".

AC-DC VOLTMETER

Reads up to 600 volts, AC or DC. Convenient, accurate, compact. Model UV-1 $25.00 complete with voltage leads.

Write for Catalog ND-400

COLUMBIA ELECTRIC MFG. CO.
4525 Hamilton Ave.
CLEVELAND 14, OHIO

For more details circle NED-976 D1 on enclosed inquiry slip

NEW! TENNANT "85"

World's most advanced POWER SWEEPER

Here are a few reasons why:

Huge 66 sq. ft. filter has 3 times the dust-removing area of other sweepers. Filter-shaker discharges dust into hopper at touch of a button. Low, 50" height lets operator see side brush while seated safely at rear. Pull-through vacuum system removes dust *before* it reaches fan. Many other new features.

WRITE TODAY *for full description.*

- Sweeps 53" path; cleans aisles up to 8½' wide in round trip
- Sweeps up to 100,000 sq. ft. an hour in open areas
- Fan and brushes turn at a constant speed regardless of sweeper's travel rate
- Floating brush follows uneven surfaces
- 12 cu. ft. dirt hopper dumps hydraulically in 10 seconds

TENNANT *Industry's Most Widely Used* POWER SWEEPERS

G. H. TENNANT COMPANY • 715D N. LILAC DRIVE • MINNEAPOLIS 22, MINN.

For more details circle NED-977 D1 on enclosed inquiry slip

SETKO

ISOTHERMAL HEAT TREATING GIVES TOUGHER, CLEANER, SCALE-FREE FINISH

it's another reliability increasing feature from Setko to help you cut costs, yet, costs you nothing extra . . .

Extensive use has proven that socket screw products treated by this process are tougher and cleaner. Threads, heads, points, shanks, etc. are scale-free. This means better fit, better performance, and it costs you nothing extra. It's another Setko exclusive in the socket screw field.

STANDARD ON MOST SETKO SOCKET SCREW PRODUCTS

Write for test samples. Send us your specifications and requirements for advantageous quotations—Ask about the Setko Product Re-analysis Program and for a copy of our catalog. Address requests on your company letterhead.

SETKO Set Screw & Mfg. Co.
130 Main Street Bartlett, Illinois (Chicago Suburb)

For more details circle NED-978 D1 on enclosed inquiry slip

CHROMALOX SNAP-ON DRUM HEATERS

Just snap on and plug in . . . for fast, uniform heating. 5-gallon size temperature ratings from 140° to 230°F . . . 300 to 1,000 watts. 55-gallon size temperature ratings from 140° to 190°F . . . 750 to 1,500 watts.

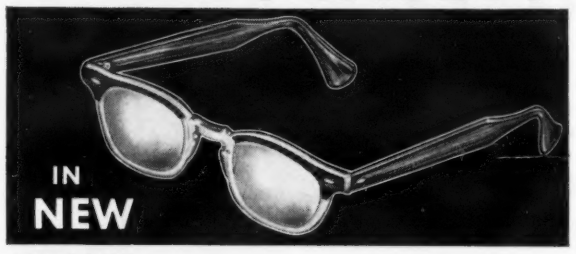
Resistance wires are double covered with braided Fiberglass and woven into a flexible mesh. Available with silicone rubber coating or impregnated with Teflon for added protection against abrasion and chemical attack.

Write for prices. Tell us which size and what is to be heated. Edwin L. Wiegand Company, 7509 Thomas Boulevard, Pittsburgh 8, Pennsylvania. 91848

CHROMALOX *Electric Heat* INDUSTRIAL • COMMERCIAL • RESIDENTIAL

▲ For more details circle **NED-979 D1** on enclosed inquiry slip ▲

STYLE + SAFETY



CESCO Two-tone Styl-Safe Glasses

Styl-Safe glasses have broad-bearing temples with spatula ends that are not only good to look at, but they hold the glasses in position and prevent them from riding forward. In Briar or Charcoal, temples are joined to the two-tone frame with 7-barrel hinges. Core wire in temples gives strength and rigidity to the entire piece. Styl-Safe glasses have 6 curve safety clear or anti-glare lenses mounted in deep-seated lens grooves. Get them with keyhole bridge in sizes 20, 22, and 24. Your choice of Styl-Safe in the color-and-size combinations listed below:

- Charcoal and Crystal: 356CC (46 x 39mm) or 358CC (48 x 41mm)
- Briar and Crystal: 356BC (46 x 39mm) or 358BC (48 x 41mm)

SEE your CESCO distributor or write our Chicago office for prices and complete information

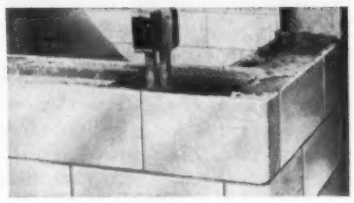
CESCO **CHICAGO EYE SHIELD COMPANY** 2715 West Roscoe St., Chicago 18, Illinois

CESCO FOR SAFETY

▲ For more details circle **NED-980 D1** on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

GLAZED MASONRY BLOCKS
1/8-in. facing resists chemicals



The 1/8-in. thick thermosetting glazed facing of Spectra-Glaze masonry blocks is resistant to chemicals, abrasion, and impact. Blocks are available in all cap, field, and base shapes in two or three-core, open or closed-end configurations for building permanent, smooth-surfaced interior walls or partitions. Facing, available in 18 standard satin-finish colors and many more field and accent colors, exceeds all national code requirements for use in fireproof buildings. Blocks are made in precise modular dimensions in thicknesses from 2 to 12 in. • **Burns & Russell Co.**, Box 6063, Baltimore 31, Md.

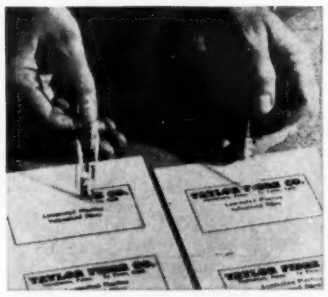
▲ For more details circle **NED-982 D1** on enclosed inquiry slip ▲

FLUORESCENT GLOSS ENAMEL
is flexible, scuff-resistant

Excellent screenability on wood, glass, metal, and some plastics is attributed to Lumi-Glo Type DE fluorescent gloss enamel. The mild solvent type, highly flexible, scuff-resistant enamel is well suited for decal processing. It screens through fine meshes without clogging. Product dries overnight, has little odor, and holds its brilliance and fluorescence. • **Advance Process Supply Co.**, 2315 W. Huron St., Chicago 12, Ill.

▲ For more details circle **NED-983 D1** on enclosed inquiry slip ▲

LAMINATED PLASTICS
new finish improves printability



Slightly dulled surface gives silicone and epoxy type laminated plastics a finish which holds all types of inks used to print panel boards and other laminate parts. The B Finish accepts silk screen, rubber stamp, and other printing methods, and also provides better adhesion for metal foil in metal-clad laminates. It eliminates the need for sanding difficult-to-print plastics. The finish can be specified at no extra cost on any standard size sheets and on fabricated parts made from these sheets. Picture shows cellophane tape being stripped from silicone resin, glass base laminate without (left) and with (right) the new finish. • **Taylor Fibre Co.**, Norristown, Pa.

▲ For more details circle **NED-984 D1** on enclosed inquiry slip ▲

OIL-FREE AIR . . . with I-R NON-LUBRICATED COMPRESSORS

Ingersoll-Rand NON-LUBRICATED compressors are designed for any application requiring oil-free air. These dependable compressors are today performing in a wide variety of installations such as hospitals, laboratories, chemical, food, brewing and distilling industries and for instrument control.

These small I-R Non-Lubricated Compressors are available as a bare compressor, base plate mounted with motor, or complete on an ASME receiver. Larger I-R reciprocating compressors are available in non-lubricated design. Write today for covering literature or see your local I-R representative or distributor.

95A-3 **Ingersoll-Rand** 11 Broadway, New York 4, N. Y.

▲ For more details circle **NED-985 D1** on enclosed inquiry slip ▲

UNIVERSAL SELECT "O" RING KITS

Fills Replacement Needs on 85% of All Industrial Equipment

- ★ 180 "O" Rings in Each Kit — Sizes 1 to 25.
- ★ Patented Plastic Case Shows You "O" Ring Sizes in Kit at a Glance!
- ★ Interchange Data of All Leading "O" Ring Producers in Each Kit — All Manufacturers' Numbers Converted to Universal Numbers.
- ★ Buy Replacement Back-up Washers in these "O" Ring Sizes.

TEFLON	$115.95
BUTYL RUBBER	$ 47.95
STANDARD COMMERCIAL (Buna N)	$ 24.50
STANDARD SILICONE RUBBER	$ 66.90
VIM LEATHER BACK-UP WASHERS	$ 28.75
SELECT-O-RING KITS IN VITON	$124.50
AN 6227 SERIES	$ 59.50

RETAINING RING ECON-O-KIT

400 Truarc Cadmium Plated Rings — 84 Sizes — 70% of Ring Sizes Used in Industry

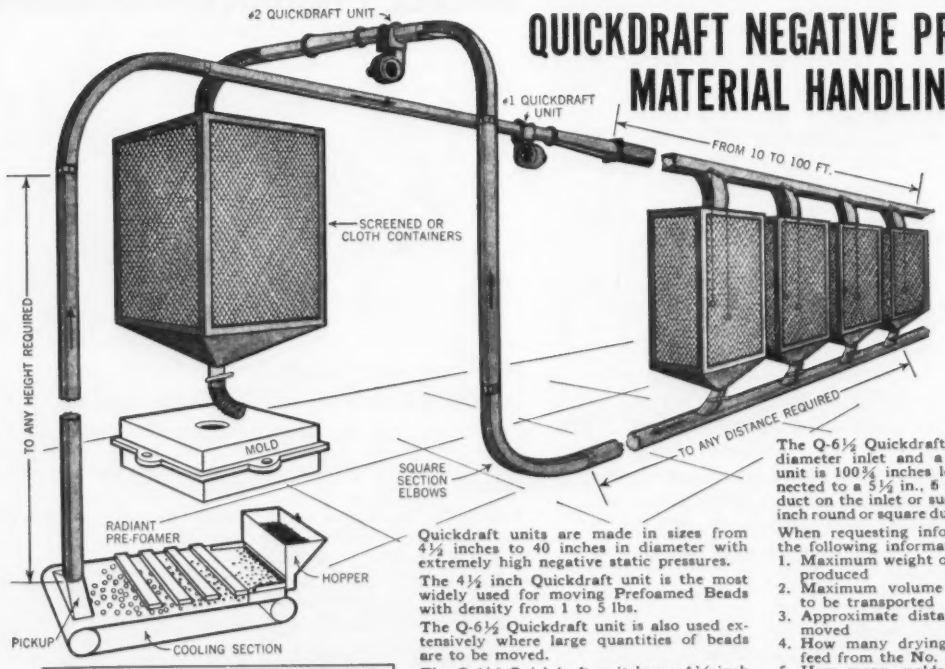
Save—eliminate many purchase orders for small quantities of retaining rings — Get most sizes used on your equipment with only ONE order — in one shockproof, plastic case. Sizes from 1/4 to 2 1/2 inches in the three most used Truarc series of internal, external and universal crescent ring designs. All rings meet National Aircraft Standards NAS 669 and NAS 670. Low priced at $34.50 per kit.

Installation and removal tools also available.

Packaged Merchandise Co.
3067 W. 117th St. • Cleveland 11, Ohio

▲ For more details circle **NED-986 D1** on enclosed inquiry slip ▲

QUICKDRAFT NEGATIVE PRESSURE MATERIAL HANDLING UNITS



Quickdraft units are made in sizes from 4 1/2 inches to 40 inches in diameter with extremely high negative static pressures.

The 4 1/2 inch Quickdraft unit is the most widely used for moving Prefoamed Beads with density from 1 to 5 lbs.

The Q-6 1/2 Quickdraft unit is also used extensively where large quantities of beads are to be moved.

The Q-4 1/2 Quickdraft unit has a 4 1/2 inch diameter inlet and a 10 inch outlet, the unit is 94 3/4 inches long and can be connected to 4 in., 4 1/2 in., or 5 inch duct on the inlet or suction end and to a 10 inch round or square duct on the exhaust end.

The Q-6 1/2 Quickdraft unit has a 6 1/2 inch diameter inlet and a 12 inch outlet, the unit is 100 3/4 inches long and can be connected to a 5 1/2 in., 6 in., 6 1/2 in., or 7 inch duct on the inlet or suction end and to a 12 inch round or square duct on the exhaust end.

When requesting information, please give the following information:

1. Maximum weight of beads to be produced
2. Maximum volume or weight of beads to be transported
3. Approximate distance beads are to be moved
4. How many drying containers you will feed from the No. 1 Quickdraft unit
5. How many molds containers you will feed from the No. 2 Quickdraft unit
6. Please send a sketch of your proposed installation. We will immediately send you the cost and the proper size unit best suited for your installation.

THE QUICKDRAFT CORPORATION
P. O. Box 87-L • Canton, Ohio

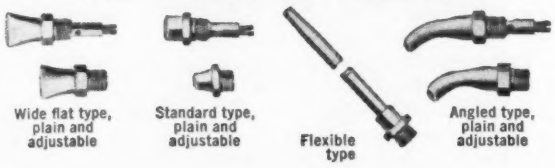
10160-QD

▲ For more details circle **NED-981 D1** on enclosed inquiry slip ▲

ALL-PURPOSE BLOW-GUNS...FORGED BRASS...STAINLESS STEEL...INTERCHANGEABLE NOSES

Operates at press of button. Sturdy forged brass blow-gun has proved indispensable to hundreds of thousands of users. Easy grip and easily maintained. Airflow capacity of 25 cu. ft. Available with ¼" N.P. Thd. and ⅜" N.P. Thd. and in special type for extremely low pressure and partial vacuum use. Write today for informative literature on these blow-guns and Schrader's complete line of other types.

NOSES FOR MOST PRECISE REQUIREMENTS

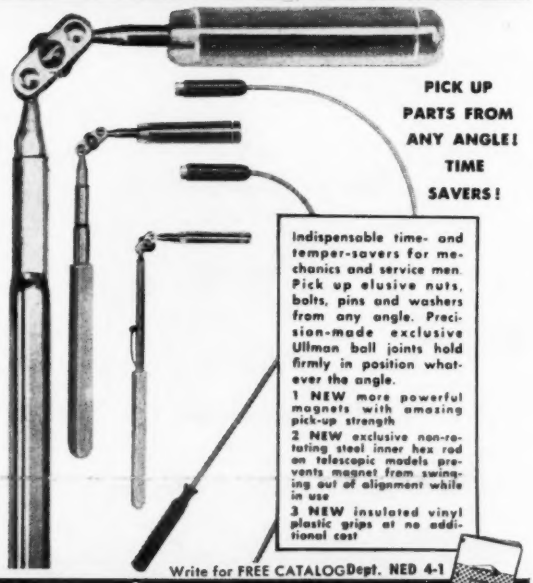


Schrader®

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Inc.
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

For more details circle NED-987 D1 on enclosed inquiry slip

NEW! STRONGER THAN EVER MAGNETIC RETRIEVING TOOLS



Write for FREE CATALOG Dept. NED 4-1

ULLMAN
ULLMAN DEVICES CORP.
RIDGEFIELD, CONN.

For more details circle NED-988 D1 on enclosed inquiry slip

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☐ Send free 32-page catalog & dealer's name
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...praised by the experts as Best Buys in Electronics

For more details circle NED-989 D1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Industrial Tractors & Accessories

International Harvester Co.—Within the 20 full-color pages of Catalog CR-1001-L are descriptions and performance data on nine industrial tractors ranging from the 13.4-hp Cub Lo-Boy utility model to the 95-hp International 660 tractor for heavy duty handling and maintenance operations. Also detailed is a complete line of accessories which adapt these versatile machines for digging, earthmoving, landscaping, material handling, snow removal, hauling, and pulling.

For more details circle NED-990 D1 on enclosed inquiry slip

Pneumatic & Electric Controllers

Minneapolis-Honeywell Regulator Co., Industrial Div.—56-page Catalog C-15-2a is descriptive of a complete line of ElectroniK pneumatic and electric controllers to fit any processing need. Strip chart, circular chart, and circular scale indicating controllers are covered.

For more details circle NED-991 D1 on enclosed inquiry slip

Portable Air Tools for Industry

Rotor Tool Co.—Line of air-powered grinders described in 6-page Bulletin SG includes standard and heavy duty 4 and 6-in. models for grinding, buffing, and other finishing operations at speeds up to 8500 rpm.

For more details circle NED-992 D1 on enclosed inquiry slip

Jet Compressors

Schutte & Koerting Co.—SK Jet Compressors detailed in 16-page Bulletin 4F are designed for circulating steam, boosting low-pressure steam, and for mixing gases in desired proportions. Included is a complete section of technical data, performance charts, and other information to aid in selection and application of the right type and size unit for a specific job.

For more details circle NED-993 D1 on enclosed inquiry slip

Submersible Pumps

Gorman-Rupp Co.—Specifications, performance data, a cross-section drawing, application and product pictures, and general information on the 3-in. electric motor driven submersible dewatering pump are contents of 8-page Bulletin 1-VS-11. Design details are shown.

For more details circle NED-994 D1 on enclosed inquiry slip

Performance of Plastics

Borg-Warner Corp., Marbon Chemical Div.—Comparisons of the major properties of Cycolac polymers, nylon, acetal resin, cellulose acetate butyrate, cellulose acetate, modified acrylic, polypropolene, linear polyethylene, and high-impact styrene are made in graph forms in 12-page report entitled "Comparison Chart Brochure."

For more details circle NED-995 D1 on enclosed inquiry slip

Where to Use Masonry Saws

Clipper Mfg. Co.—16-page pocket guide No. 1075 tells how and where to use Clipper masonry and concrete saws. Procedures are outlined, and cutting techniques are explained with text and sketches.

For more details circle NED-996 D1 on enclosed inquiry slip

Tool & Die Components

PIC Design Corp.—Handy pocket-size 24-page Technical Booklet No. 6 is entitled "Tool Components and Their Applications." It gives the designer and engineer complete information on standardized tool components. Case histories cite specific use as standard parts of jigs, fixtures, tools and dies.

For more details circle NED-997 D1 on enclosed inquiry slip

How to Photocopy

Anken Chemical & Film Corp.—Six pages of information on diffusion transfer photocopying papers and films are contained in the current issue of "Photocopy News & Reproduction Review." Included are details of a new Ampto photocopier, techniques for copying continuous tone photographs, and a description of a new photographic contact arc light proofing paper.

For more details circle NED-998 D1 on enclosed inquiry slip

Polypropylene Properties

Eastman Chemical Products, Inc.—Entitled "Preliminary Information About Tenite Polypropylene," 8-page booklet discusses physical and mechanical properties of this hard, stiff, strong, tough polyolefin plastic which has good molding and extrusion characteristics, as well as good transparency, color, and low odor.

For more details circle NED-999 D1 on enclosed inquiry slip

NEW! DIFFERENT!

MagnaLift LIFT MAGNET with self-contained power supply

2000 LB. and 4000 LB. CAPACITIES

for scores of lifting jobs... for conveyors and other automatic handling equipment

Use it in the plant or outside. Removable power pack for complete remote control in mobile equipment—such as cranes, industrial trucks. Many other features you get only in MagnaLift—the *new*, the *different* lift magnet.

3 Power Packs (interchangeable)
12-VOLT BATTERY
12-VOLT BATTERY—VARIABLE HOLDING POWER
110-VOLT A.C.—BUILT-IN D.C. RECTIFIER

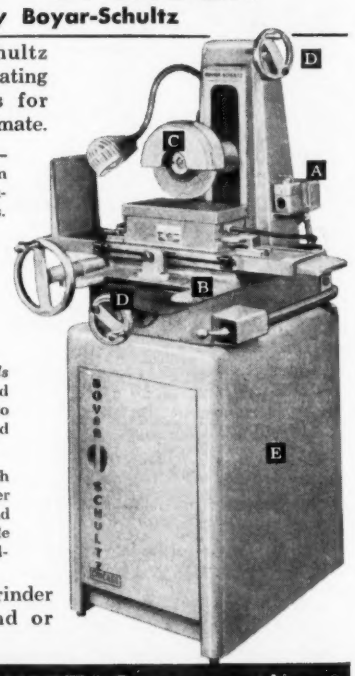
GET FULL DETAILS NOW. Write Dept. N-461
Model LM4, $385.00 F. O. B. Big Rapids, Mich.

Hanchett MAGNA-LOCK, CORP. BIG RAPIDS, MICHIGAN

For more details circle NED-1000 D1 on enclosed inquiry slip

6-12 DELUXE SURFACE GRINDER by Boyar-Schultz

A De Luxe Boyar-Schultz Surface Grinder incorporating many new accessories for those who want the ultimate.



A—*Automatic Oiling System*—A motorized lubrication system providing continuous flow of lubrication to all bearing surfaces.

B—*Oil Hardened and Ground* tool steel inserts on saddle ways.

C—*New Wheel Guard* to accommodate an eight inch grinding wheel.

D—*Slip Rings on hand wheels* for vertical feed and cross feed permit the graduated dials to be set at 0 or any other desired graduation.

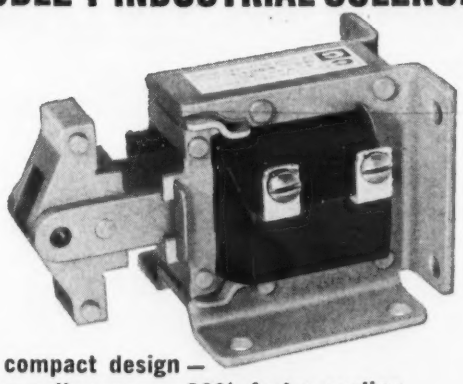
E—*New Heavy Duty Base* with welded structural steel inner frame for maximum rigidity and increased weight. Also available with patented built-in dust collector.

6-12 De Luxe surface grinder is available with hand or hydraulic feed.

BOYAR-SCHULTZ Corporation
2001 South 25th Avenue, Broadview, Illinois

For more details circle NED-1001 D1 on enclosed inquiry slip

DOUBLE T INDUSTRIAL SOLENOID



NEW compact design — greater pull-power... 20% faster cycling

First time on the market — Controls Company's 831 series *industrial solenoid.* A new design with greater performance than some solenoids twice the size. Check these features:

- Double T plunger design gives more-level pull characteristics without power drop-off
- Frame and core protection by epoxy paint
- Heavy-duty universal mounting bracket — mounts in any position without removing screws
- Heavy-duty reinforced linkage

Write for complete data.

Creative controls for industry

CONTROLS COMPANY OF AMERICA
APPLIANCE AND AUTOMOTIVE DIVISION
9577 Soreng Avenue—Schiller Park, Illinois • Cooksville, Ontario • Zug, Switzerland

For more details circle NED-1002 D1 on enclosed inquiry slip

Whenever you have a sticking problem.....!

Use

IMS

SILICONE FLUID SPRAY

To cut your reject costs!

Next time you walk through the plant and see them losing production due to process sticking in molding, packaging or cutting ... just order IMS Silicone Spray! You'll want to take a can home too, to prove its superb lubricating and anti-stick quality on locks...ice trays... guns...fish reels...storm windows, etc.

12 cans FREE!

Look for your FREE BONUS card in each unbroken dozen. Just mail us 12 of these cards and we'll send you one dozen cans at no charge!

PRICES (Delivered)
Sample Can $2.00
Per Unbroken Dozen $18.00
Per Unbroken Gross $197.40

INJECTION MOLDERS SUPPLY CO. INC.
17601 So. Miles Rd. Cleveland 28, O.

▲ For more details circle NED-1003 D1 on enclosed inquiry slip ▲

The most complex cleaning jobs are easy . . . with Westinghouse ultrasonic cleaning equipment

Whatever your cleaning problem . . . whether for intricate new products or a variety of production parts . . . the job is easier with High-Power Westinghouse ultrasonic cleaning equipment.

It's faster and more efficient than other cleaning methods. No hard scrubbing . . . no harsh solvents. Westinghouse ultrasonic cleaning equipment reaches into the tiniest crack . . . blasts away clinging soils from complex assemblies . . . usually in seconds.

Westinghouse ultrasonic generators incorporate advanced solid state trinistors to achieve greater reliability, higher efficiency, and smaller size. The new Westinghouse Magnopak transducers deliver twice the usable power of other transducers for the same electrical input. Standard tank sizes: 1½ to 16 gallons, or custom sizes.

Ask the Westinghouse Industrial Electronics Department, 2519 Wilkens Ave., Baltimore 3, Maryland, for information on how ultrasonics can solve your cleaning problem. You can be sure . . . if it's Westinghouse.

J-35024

Westinghouse

▲ For more details circle NED-1004 D1 on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

EPOXY COATING
pastel colors added to line

Tile-Coat activated epoxy coating is now available in Ivory, Beige, Pale Green, and Haze Grey colors in addition to bright equipment and Safety Code colors. New colors can be used on general wall surfaces in factories, offices, and other buildings. Coating is brush or spray applied at a material cost of slightly over 2 cents per square foot and has an 8-hr pot life. It contains a minimum of 50 per cent epoxy resin in each color. • **Wilbur & Williams Co.**, 650 Pleasant St., Norwood, Mass.

▲ For more details circle NED-1005 D1 on enclosed inquiry slip ▲

MULTIPURPOSE LUBRICANTS
stable over −15 to 450° F range

Line of Molylubricant multipurpose lubricants consists of a number of greases and oils, only three of which are needed to take care of most plant lubrication requirements. Made with molybdenum disulfide, the products extend lubrication cycles and permit a plant to carry a smaller inventory since fewer different lubricants are used. They are stable in a range from −15 to 450° F, will not melt under intense heat, and are unaffected by freezing, salt water, and most acids and alkalies. Lubricants bond to metals and alloys, yet do not build up. They withstand pressures up to 150,000 psi. • **Bridgeport Fabrics, Inc.**, Chemical Products Div., Bridgeport 9, Conn.

▲ For more details circle NED-1006 D1 on enclosed inquiry slip ▲

LAMINATING RESIN
is one-component material

When used in conjunction with quartz or glass fiber fabric, Eccomold L-70 high temperature laminating resin makes laminates which withstand 500° F. With polyproplylene fabric, laminates with a dielectric constant as low as K2.15 can be made. Laminates are used in radomes, printed circuit boards, waveguide windows, antenna insulators, and other critical electronic applications. No catalyst is required with the one-component material which is supplied at a viscosity that assures thorough wetting of the fabric. • **Emerson & Cuming, Inc.**, 869 Washington St., Canton, Mass.

▲ For more details circle NED-1007 D1 on enclosed inquiry slip ▲

YODER Rotary Slitting Lines ... Produce the Strip Widths You Need!

Investigate the many advantages of YODER-engineered Slitter Installations. Write today for the comprehensive 80 page YODER Slitter Manual ... it's yours for the asking!

THE YODER CO.
5547 Walworth Avenue
Cleveland 2, Ohio

1910 FIFTY YEARS 1960

YODER

ROTARY SLITTING LINES
PIPE AND TUBE MILLS (ferrous or non-ferrous)
COLD ROLL FORMING MACHINES

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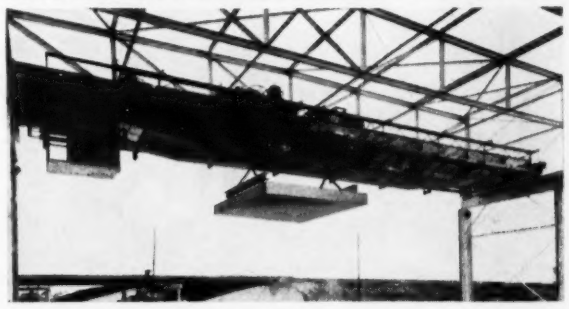
Custom-Engineered
CONCO CRANES
fit the job, *do* the job . . . *Better*

Conco Crane Installation at Underwriters' Laboratories, Chicago



Conco Cranes are engineered to fit your job like a glove. And because custom-building is standard-practice at Conco, special crane features are practically priced. Write us for Bulletin 5000A covering the complete line of Conco cranes, hoists and trolleys.

Material Handling Division
CONCO ENGINEERING WORKS, INC.
57 Grove Street, Mendota, Illinois

CRANES HOISTS CONCO

AFFILIATES
Spartan Tool Division—Powered Sewer Cleaning Equipment
Field Control Division—Barometric Draft Controls
Conco Building Products, Inc.—Brick, Tile, Stone

▲ For more details circle NED-1010 D1 on enclosed inquiry slip ▲

Amazing NEW
Rust Removal Discovery
REMOVES RUST
IN 2 SIMPLE STEPS
without acids

just DIP
then RINSE

Here's why hundreds of leading plants are using
TURCO ALKALINE RUST REMOVER

Eliminates 6 of the steps required by conventional rust & paint removal processes.

Metallurgically safe ... No dimensional loss ... No acid embrittlement. Safer and easier to handle. Eliminates hazards commonly encountered with acids. Contains no cyanide compounds.

Write for FREE BROCHURE!
Discloses the full story on rust removal without acids! Reveals scores of applications that may save you money.

TURCO

TURCO PRODUCTS, INC.
CHEMICAL PROCESSING COMPOUNDS
24600 South Main Street, Wilmington, California
Factories: Chicago, Houston, Los Angeles, London, Rotterdam, Sydney, Mexico City, Paris, Montreal, Hamburg, Naha (Okinawa)
Manufactured in Canada by B. W. Deane & Co., Montreal
OFFICES IN ALL PRINCIPAL CITIES

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THE EASY WAY TO MOVE
AIR • DUST • FUMES • MATERIALS

Made of strong, durable coated fabrics, wire reinforced, and in sizes from 1¼" to 36" i.d. Flexaust hose and Portovent duct have been used for thousands of money-saving installations since 1938. New Catalog 605 gives detailed selection, price and installation data.

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DEPT.NED4,100 PARK AVE • NEW YORK 17, N • Y •
Distributors in all principal cities

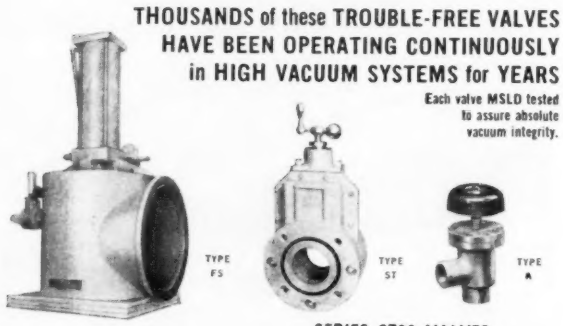
For more details circle NED-1013 D1 on enclosed inquiry slip

HIGH VACUUM VALVES

Series 2700
Sizes 2" to 48"
All over 12" air operated

THOUSANDS of these TROUBLE-FREE VALVES HAVE BEEN OPERATING CONTINUOUSLY in HIGH VACUUM SYSTEMS for YEARS

Each valve MSLD tested to assure absolute vacuum integrity.



VALVE FEATURES
- Low impedance — full opening — short flow path.
- Pneumatic, toggle or hand-crank operated.
- No scuffing of valve seat gasket in closing and opening.
- Lightweight aluminum or fabricated steel. Compact design
- Each valve individually tested under operating conditions with mass spectrometer-type leak detector.

SERIES 2700 VALVES

TYPE FS-Pneumatic, angle-type. Flanged connections with O-ring groove on inlet. 10" thru 48".
TYPE ST-Pneumatic, toggle or hand-crank operated. Straight through type. Flanged connections with O-ring groove. 2" thru 12" and larger.
TYPE A-Pneumatic, toggle or hand wheel operated. Angle type, threaded or sweat connections ⅝" thru 1½".
• Two-stage, low impedance, water and liquid nitrogen-cooled baffles available in the complete range of sizes for use with Series 2700 Valves.

We also design and manufacture Vacuum Furnaces, Pumping Systems, Altitude Simulation Equipment, Leak Detection Systems, Impregnation Facilities, Custom Engineered Plants.

Write for complete data on our Series 2700 High Vacuum Valves

GENERAL VACUUM CORPORATION
HICKS AVENUE, MEDFORD 55, MASSACHUSETTS

For more details circle NED-1014 D1 on enclosed inquiry slip

BREAK COST-BARRIERS
with timely
Brightboy
RUBBER CUSHIONED ABRASIVES

Multi-use Brightboy extensively broadens the scope of abrasive applications, replacing various older, costlier methods. Now, more than ever, you probably can utilize Brightboy's economical, new concept for working:

ALL METALS • WOOD • GLASS • LAMINATED MATERIALS • SOME PLASTICS

Brightboy's simultaneous rubber-and-abrasive working action frequently reduces

BURRING • CLEANING • FINISHING POLISHING, to one operation.

Readily available STOCK TEXTURES, in a wide range of rubber binders, soft to tough, for machine and manual operations. The only complete, comprehensive stock line of soft rubber bonded abrasives.

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- Methods & Applications
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- Job-Matched, Stock Wheels, Sticks, Rods, Blocks & Points
- Wheel Sizes —Complete Range

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America's Pioneer Manufacturer of Rubber-Bonded Abrasives

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

For more details circle NED-1015 D1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Ultrasonic Degreasing Techniques

Phillips Mfg. Co.—8-page Bulletin 23 discusses ultrasonic cleaning applications as well as generators, tanks, filters, rinses, dryers, and other equipment available for large and small scale degreasing operations.

For more details circle NED-1016 D1 on enclosed inquiry slip

Volkswagens for Industry

Volkswagen of America—"From the Owner's Viewpoint" is a well-illustrated 60-page brochure containing a series of fully documented case histories on the economy and performance of VW trucks in typical uses in 15 industries. Cost figures are tabulated for each use, and performance advantages are outlined.

For more details circle NED-1017 D1 on enclosed inquiry slip

Shop & Material Handling Equipment

Pucel Enterprises, Inc.—Catalog No. 261 contains 48 pages of specifications and prices on the complete Grizzly line of industrial equipment. Line includes hand trucks, shop stands, cabinets, work benches and accessories, drum equipment, lift truck fork attachments, machine stands, and drum tilters.

For more details circle NED-1018 D1 on enclosed inquiry slip

Machine Tool Accessories

Universal Vise & Tool Co.—Catalog 1161CJ is a 24-page guide to a complete line of tools, including the Speedi-Spacer indexing table, adjustable lathe fixtures, quick-acting vises, adjustable angle plates, rotary tables, three-way vises, and quick-acting pressure units. This instructive bulletin is entitled "10 Ways to Make Setups Easier & Quicker."

For more details circle NED-1019 D1 on enclosed inquiry slip

Heating & Ventilating Equipment

American Standard, Industrial Div.—20-page color-illustrated Brochure B-6429 describes facilities, products, and markets served by this manufacturer of air conditioning, air handling, heat transfer, and fluid drive equipment.

For more details circle NED-1020 D1 on enclosed inquiry slip

Blind Rivets

United Shoe Machinery Corp., "Pop" Rivet Div.—Sketches and photographs in 6-page Bulletin SL-105 show a variety of applications for "Pop" rivets in the building industry. Their advantages and low cost are outlined. Details of available styles are given.

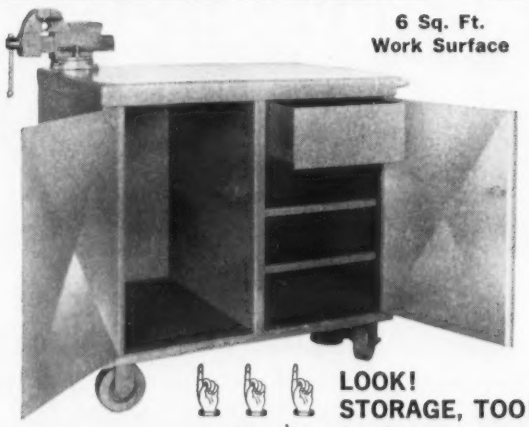
For more details circle NED-1021 D1 on enclosed inquiry slip

Miniature Die Castings

Hadlock & Temte, Inc., Service Div.—Typical precision miniature die castings produced to customer's specifications are shown in 4-page bulletin "Proven Answers." Company's facilities for producing production runs are described.

For more details circle NED-1022 D1 on enclosed inquiry slip

SAVES STEPS
TIME & TOOLS
MOBILE BENCH



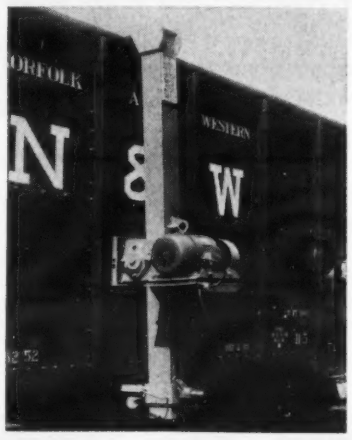
6 Sq. Ft. Work Surface

LOOK! STORAGE, TOO!

Rugged Roll-A-Bench all-welded of 1/8 and 3/16 in. plate. Supports 2000 lbs. Easily moved by one man. Doors lock to protect tools!
Shipping Weight: 335 lbs. $185.00 fob Cleveland

the Overbeke-Kain company
20979 AURORA RD. / BEDFORD, OHIO

For more details circle NED-1023 D1 on enclosed inquiry slip



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OVER 1300 IN USE

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For more details circle NED-1024 D1 on enclosed inquiry slip

The **S-22 MICROFINISH COMPARATOR**

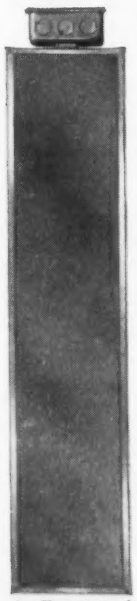
GAGE SURFACE FINISH TO NEW A.S.A. STANDARDS - *Quickly - Accurately*

This convenient pocket comparator has 22 precision surfaces for specifying and controlling finish to the new A.S.A. Standard B46.1-1955. Electroformed in durable corrosion-resistant nickel, the S-22 Comparator provides every department with the most inexpensive method for uniform, accurate control of finish characteristics.
Save valuable time in engineering, inspection, quality control—eliminate costly overfinishing in purchasing and production. $17.50 complete with leather case.
Available from leading industrial distributors, or write

FAIRFIELD DEVELOPMENT LAB., INC.
(SUCCESSOR TO BAPTIST MACHINE CO.)
40 Ludlow Street, Stamford, Conn.

For more details circle NED-1025 D1 on enclosed inquiry slip

PYREX® panel heaters for uniform heat over wide areas



Every square inch of this PYREX panel heater's surface gives you the same amount of even, efficient heat. Because the entire panel is the element, troublesome hot and cold spots are eliminated. Your products will absorb as much as 90% of its long-wave, "far-infrared" energy for really *fast, thorough* drying, curing, baking.

FOUR OTHER EXCELLENT PYREX PANEL HEATER ADVANTAGES

1. PYREX panel heaters are color blind — uniformly dry any material regardless of color.
2. They save space and heat in a small area, because you don't have to warm up a lot of air first.
3. The panels cool slowly, so they eliminate temperature fluctuations—especially where heating is intermittent.
4. You have accurate control of temperature from start-up to shut-off. Panels pull only a 10% surge on start-up.

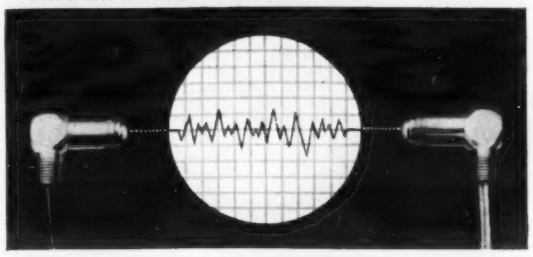
NEW BULLETIN PE-70 explains in detail how PYREX panel heaters work, contains specifications and applications. For a copy, write to Industrial Components Department, 5604 Crystal Street, Corning, N. Y.

CORNING GLASS WORKS
CORNING MEANS RESEARCH IN GLASS

For more details circle NED-1026 D1 on enclosed Inquiry slip

HIGH SPEED

Production Control!



Industries Served By PHOTOMATION:

- Packaging
- Printing
- Drugs
- Pharmaceutical
- Cosmetic
- Textile
- Chemical
- Military
- Beverage and hundreds of other processing industries.

Everyday users are finding new ways to place PHOTOMATION "electric-eyes" on high speed production lines. Where speed, accuracy and constant performance count the most. The new 1961 line of miniaturized units are designed to do the impossible jobs . . . right on the production line. These tiny electric eyes are backed up with years of experience and constant refinements to keep up with automation developments.

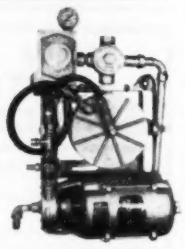
A staff of engineers—in key locations—are ready to consult with you on your problems.

Photomation Inc.
96 SOUTH WASHINGTON AVENUE, BERGENFIELD, NEW JERSEY

Write today for descriptive material.

For more details circle NED-1027 D1 on enclosed inquiry slip

Here's How Hot Spray Gives Superior Finish, in Less Time, at Lower Cost!

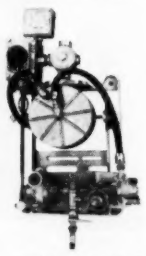


Model 300 APE Circaflo circulating heater operates from conventional pressure supply.

Spee-Flo Hot Spray units maintain a constant and uniform temperature **at the gun**, even in intermittent service. As a result, there is no variation in material viscosity—no need to add additional thinners which reduce finish quality—you save time and material, enjoy greater coverage and longer film life.

Efficiency? Check these Spee-Flo features . . .

- Lower finishing cost per unit
- Improved build and holdout
- Stops blushing, orange peel and sag
- One coat application
- Greater coverage
- Faster, all-weather spraying
- Material saving with reduced overspray



Model 300 AR Rotoflo circulating heater siphons material directly from the original container.

Call your nearest Spee-Flo distributor or write to Spee-Flo Company, 6614 Harrisburg, Houston 11, Texas, for the booklet, "Why Hot Spray?" . . .

Ask for an on-the-job demonstration!

6614 Harrisburg, Houston 11, Texas

The Spee-Flo Company

For more details circle NED-1028 D1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

BOILER CLEANER-CONDITIONER is easy to use

Suited for cleaning and conditioning hot water and steam boilers and systems, Jiffy Caps are 3-in. gelatin capsules which contain a soluble chemical conditioner. Capsule dissolves instantly to start chemical action for dissolving oil, grease, and sludge. Water in sluggish boilers is changed to tap water clarity within 24 hr. • **Crest Mfg. Co.**, 4-65 48th Ave., Long Island City 1, N. Y.

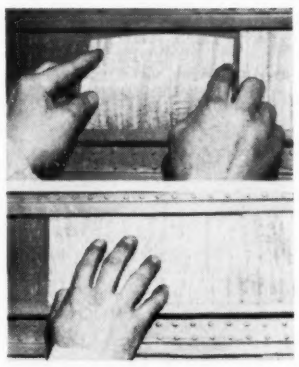
For more details circle NED-1030 D1 on enclosed inquiry slip

BLUE MYLAR DRAFTING FILM is easy on the eyes, speeds drawing

Special pencils are not needed to draw on Stascale blue Mylar polyester film base drafting film. Any H to 5H graphite pencil can be used, as can India ink. This film is easy on the eyes because of its restful color. It lays flat, erases without "ghosts," and resists tearing, cracking, and abrasion. • **B. K. Elliott Co.**, 536 Penn Ave., Pittsburgh, Pa.

For more details circle NED-1031 D1 on enclosed inquiry slip

VIBRATION DAMPING TAPE self-adhesive backing simplifies application to thin sheet metal



Conforming to rough and irregular surfaces, Scotchfoam vibration damping tape reduces resonant vibration and accompanying noise in widely varying applications. It consists of polyurethane foam, plastic, and high-tack adhesive, and is rapidly applied with finger pressure against its embossed vinyl plastic backing. Product is moisture and flame resistant and has high thermal insulation properties.

Single layer of the 0.0250-in. tape provides excellent damping on steel and aluminum of 0.060-in. thickness. Two layers will damp 0.125-in. metal. Tape has application in aircraft, metal cabinets, doors, desks, automobiles, appliances, and typewriters. It is available in 6-in. widths and lengths up to 8 ft and is priced at $1.55 per square foot. • **Minnesota Mining & Mfg. Co.**, 900 Bush Ave., St. Paul 6, Minn.

For more details circle NED-1032 D1 on enclosed inquiry slip

USE YOUR OWN 55 GALLON DRUMS

HILD

TRANSFERABLE HEAD VACUUM CLEANERS

POWERFUL INDUSTRIAL MODELS TO SOLVE YOUR PICK-UP AND BLOWING PROBLEMS!

755-1½ 765-1½ 455

Representatives in Every Major City

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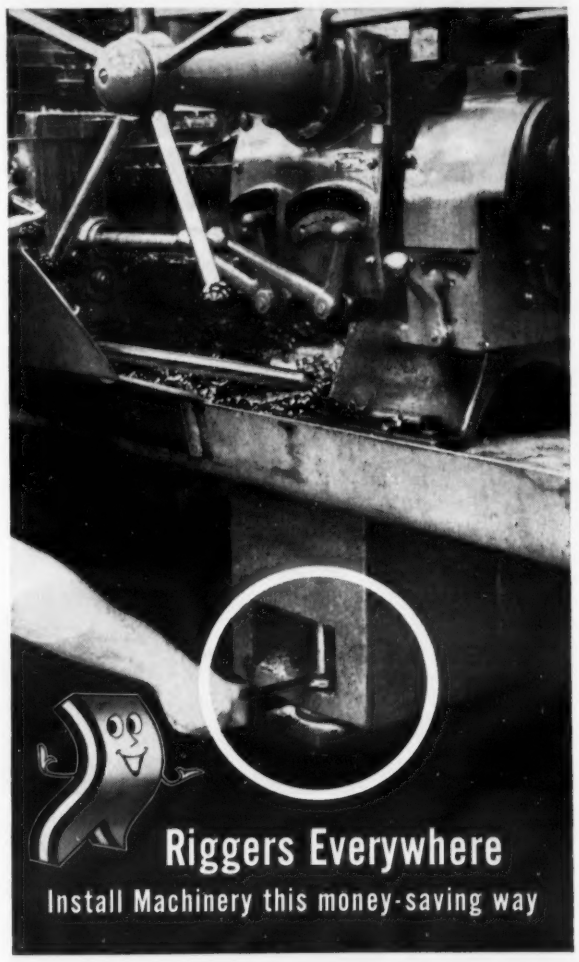
HILD FLOOR MACHINE CO., INC.
1217 W. Washington Blvd., Chicago 7

HILD VACUUM CLEANERS, SCRUBBERS AND POLISHERS HAVE SERVED INDUSTRY FOR 35 YEARS

For more details circle NED-1033 D1 on enclosed inquiry slip



Watch the way the experts — the riggers — move machinery! They work with Unisorb pads and Level-Rite mounting devices — save up to 80% in installation time and costs. Unisorb simplifies and speeds machinery relocation. No bolts, lag screws or time-consuming drilling is necessary. Labor savings at installation actually pay for Unisorb — and then some!

What's more, Unisorb Mounts eliminate up to 85% of transmitted vibration and noise — increase machine life, efficiency and speed — step up machine and worker productivity. Maintenance costs of machinery and buildings are lowered. Level-Rites, now available in 11 models, can take loads from 200 to 7500 lbs. All types of machines can be mounted on all types of floors. Ask for a Money-Back Trial . . . NOW!

See your local distributor

UNISORB LR LEVEL-RITE MOUNTS. For heavy duty. Exclusive screw post design, steel base plate, Unisorb pad.

UNISORB LR 200 and LR 500. "200" is for business machines, light machine tools. "500" is for light duty machine tools.

UNISORB UL — Base plate (with recessed center) Unisorb Pad combination for machines with built-in leveling screws.

UNISORB MOUNTING PADS — the basic vibration control unit. Takes the big tonnages. Many densities and thicknesses.

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Please send me a Unisorb Sample and Free Book

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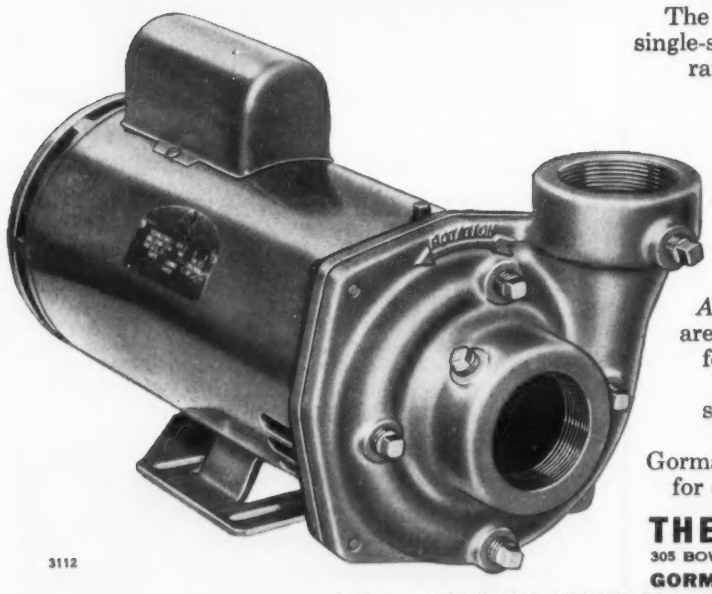
Company.....
Address.....
City..... Zone..... State.....

For more details circle NED-1034 D1 on enclosed inquiry slip

GORMAN-RUPP SIX-SIXTY PUMPS

Simple, dependable, highly versatile units for use in your product assemblies or plant



The unique and highly efficient Six-Sixty line of single-stage centrifugal pumps includes six models: ranging from ½ to 2 hp, from 1" to 2" in pipe sizes, and from 40 to 175 gpm in capacity against a typical total head of 35 ft.

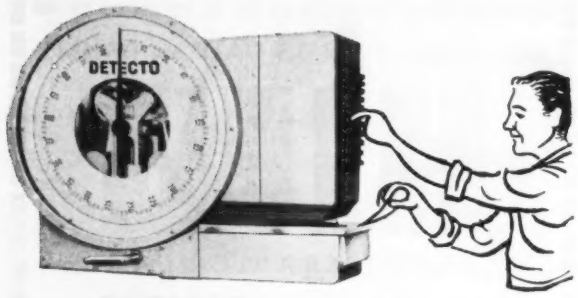
Design Features: integral pump and motor construction, minimum maintenance and upkeep. The unit can be mounted horizontally, vertically, at an angle or on the side. Discharge port can be turned in any one of four positions, 90° apart.

Applications: Gorman-Rupp Six-Sixty pumps are ideal for use as integral units in equipment for washing, cleaning, blending, water conditioning, etc. . . . for cold water circulating systems in factories, warehouses, etc. . . . for water supply or booster service, etc. Other Gorman-Rupp regular or self-priming centrifugals for every industrial need. *Write for information.*

THE GORMAN-RUPP COMPANY
305 BOWMAN STREET MANSFIELD, OHIO
GORMAN-RUPP OF CANADA LTD. ST. THOMAS, ONT.

3112

For more details circle NED-1029 D1 on enclosed inquiry slip



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PRINT the weight

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do it speedily... accurately.

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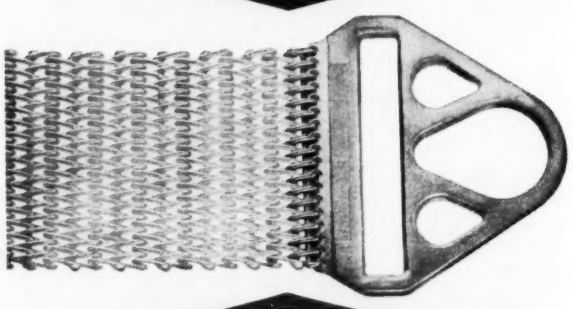
DETECTO SCALES, INC.
Dept. D-6, 540 Park Ave.
Brooklyn 5, N. Y.

▲ For more details circle NED-1035 D1 on enclosed inquiry slip ▲

This

SPIRAL OF STRENGTH*



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The free-floating stainless steel spiral that connects the Gripper Sling handle with the fabric makes the Gripper Sling 3 ways better than any other sling of its type. *Safer* because the spiral is wound through the handle, not welded to it. The handle hinges freely back and forth, with no danger of weld breaks where the fabric meets the handle. *Stronger* because this stainess steel spiral gives 30% more wear, 66% more tensile strength than carbon steel. *More Useful* because this new design increases sling fabric length to give more grip when sling is used in a choke hitch.

Pretested Gripper Slings are available in standard lengths and widths with capacities up to 100,000 lbs. Special sizes, alloys or PVC plastic or Neoprene covered slings available. Write for FREE CATALOG and name of your nearest Gripper Sling distributor.

*Pat. App. For

The Cambridge Wire Cloth Co.
DEPARTMENT E • CAMBRIDGE 4, MD.

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NEW LITERATURE and CATALOGS

Thermal Insulation Guide

Johns-Manville Corp.—64-page revised Catalog IN-244A is a virtual handbook on all types of commercial and industrial insulations for applications ranging from −400° to 3000° F. Six complete sections present data on industrial and high temperature; plumbing, heating, and air conditioning; refrigeration; firebrick and refractory; finishes and waterproofing; and miscellaneous insulations such as asbestos paper, millboard, felts, blankets, and others.

▲ For more details circle NED-1037 D1 on enclosed inquiry slip ▲

Industrial Door Operators & Controls

Crawford Door Co.—Complete engineering data to aid in the selection and application of sectional, single leaf, rolling, sliding, and swinging door operators in industry are given in 6-page Bulletin CD-2654. Operators and controls speed traffic in and out of structures.

▲ For more details circle NED-1038 D1 on enclosed inquiry slip ▲

Woodworking Saws

DeWalt, Inc.—16-page Bulletin SP-51-60 is descriptive of a complete line of overarm saws for industrial woodworking applications. These versatile saws can be used to cross cut, miter, rip, bevel, cut off, bevel rip, dado, plough, shape, rout, rabbet or groove, and tenon. Supplementary price list gives prices for machines and accessories.

▲ For more details circle NED-1039 D1 on enclosed inquiry slip ▲

Two-Way Radio Guide

General Electric Co., Communications Products Dept.—Offered as a businessman's guide to two-way radio, pocket-size nontechnical Bulletin ECR-568A is entitled "Under the Influence of Radio." It informs potential mobile communications users of some of the more important FCC licensing requirements. It discusses operating methods, such as how a message is sent, how to adjust a mobile radio, and record keeping procedures.

▲ For more details circle NED-1040 D1 on enclosed inquiry slip ▲

Packaging Machine

Food Machinery & Chemical Corp., Stokes & Smith Div.—Semiautomatic Sure-Way Casers for positioning, assembling, elevating and loading packages into top-open, side-open, and end-open shipping cases are described in 8-page Bulletin CMD 602-W.

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Environmental & Dustfree Enclosures

Kewaunee Mfg. Co., Kewaunee Scientific Equipment Div.—32-page AIA Bulletin No. 35 E is descriptive of controlled atmosphere systems, vacuum boxes, dustfree enclosures, and other special enclosures for laboratory or production use in testing, assembly, research, and other operations under exacting atmosphere conditions.

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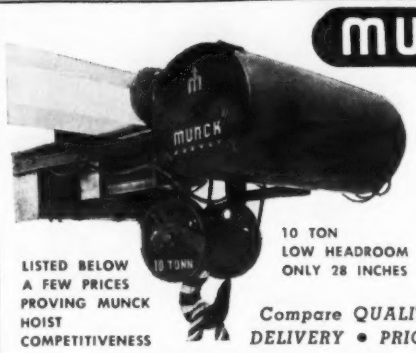

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1½	—	66	55	29	1100.	34	1320.	1360.	1600.
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For more details circle NED-1051 D1 on enclosed inquiry slip

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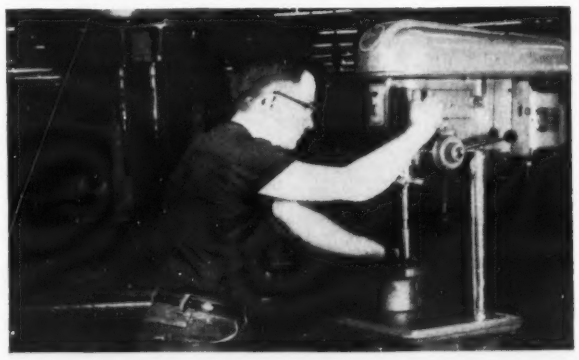
prepares old surface for new finish

Zip-Sander, a liquid paint "sander," deglosses and roughens old painted or gloss enameled surfaces to assure good bond of new finish. It removes grease and wax films and completely eliminates need for hand sanding as a bond preparation treatment. A liquid combination of micro-fine silica and high potency solvents, product softens the old paint film to the consistency of three-day-old new paint. Applied with a cloth as with furniture polish, Zip-Sander gives instant results. One pint covers about 150 sq ft and is priced at 98 cents. • **Star Bronze Co.**, 803 Mahoning Ave., Alliance, Ohio.

For more details circle NED-1052 D1 on enclosed inquiry slip



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DELTA'S NEW 7" Grinder

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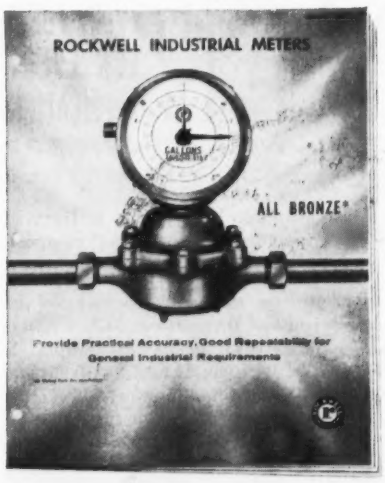

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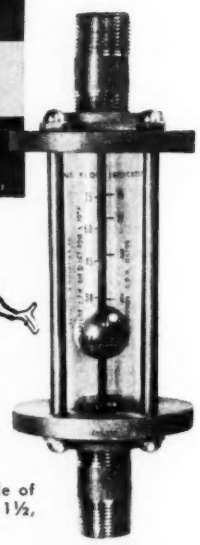
SK FLOW INDICATOR PROVIDES DUAL SCALE FOR WATER OR AIR



Now, you can obtain approximate measurement of water flow in gpm and air flow in cfm with SK's Fig. 18123 Ball Flow Indicator.

Note the dual scale, for water and air, on the Flow Indicator in the illustration.

This indicator uses a ball to indicate flow in a pipe line. The position of the ball, in relation to the water or air scale graduations gives approximate indication of fluid rate-of-flow.

SK Fig. 18123 Ball Flow Indicators, made of bronze, are carried in stock in ¼, ½, ¾, 1, 1½, and 2 in. pipe connection sizes.

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INSTRUMENT DIVISION
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Packaged Compressors

Clark Bros. Co.—Operational and design features of TVM VeePac packaged compressors are discussed in 6-page Bulletin 191. These two-cycle, turbocharged, gas-engine-driven compressors are suitable for field gas gathering, off-shore mounting, gas lift, repressuring, refining, secondary recovery, and other multi-service applications. Ten and 12-cylinder models are rated at 825 and 1000 bhp, respectively.

▲ For more details circle **NED-1059 D1** on enclosed inquiry slip ▲

HANDLING FERROUS METALS?

Save time and cut costs with STEARNS lifting magnets

Job-proved in steel mills, foundries, scrap yards and manufacturing plants throughout the world.

Deep-ribbed for maximum heat dissipation, Stearns lifting magnets run cooler, lift stronger. Shock absorber design provides extra protection for longer, maintenance-free life.

Available in all-welded or bolted design in sizes and capacities to handle any job. Rectifiers and controls also available.

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635 South 28th Street • Milwaukee 46, Wisconsin

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YOU NEED LED-PLATE ANTI-SEIZE SEALING COMPOUND

ASSEMBLY
MAINTENANCE
PRODUCTION

HIGH TEMPERATURE ANTI-SEIZE
No heat freeze. Temp. range - 350°F to + 2987°F
MEETS GOVERNMENT SPECIFICATIONS
Mil-A-907 QPL-907

NO GALLING OR SEIZING recommended for aluminum, stainless, titanium, plastic, steel, brass, etc.
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SPECIFICATION COMPOUNDS IN STOCK

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MIL-T-5544
MIL-A-13881

SPEC. OXYGEN SEAL
NAVORD OSTD-53
CUSTOM COMPOUNDING

SEND FOR FREE SAMPLE!

APPROVED for Butane, Propane, Gasoline, Petroleum Oils.

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6609 Broad St., Los Angeles 1, Calif. U.S.A.

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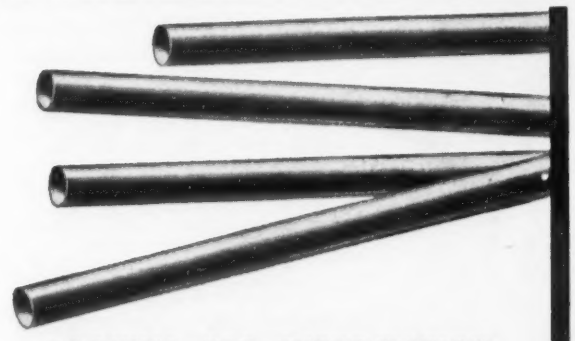


LOOKING FOR INFORMATION ON ALUMINUM TUBE?

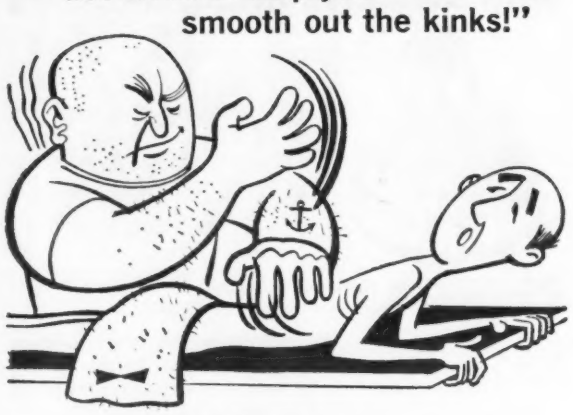
WRITE FOR

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. L, 17272 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper — Copper Alloys — Aluminum — Special Metals

▲ For more details circle **NED-1062 D1** on enclosed inquiry slip ▲

Clutches and Brakes a problem?

"Let Stearns help you smooth out the kinks!"



Things really shape up when you call on Stearns. Free Booklet tells why.

Stearns ELECTRIC CORPORATION
120 NORTH BROADWAY
MILWAUKEE 2, WISCONSIN
The Complete Line of Electromagnetic Clutches — Brakes — Clutch-Brakes
SINCE 1917 THE CHOICE OF LEADING MOTOR AND MACHINERY MANUFACTURERS

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NEW SOLDER FOR DIFFICULT JOBS

Difficult soldering jobs become easy when you use this new, finely powdered solder called FAS-TIN. Each particle of solder is surrounded by a powerful scavenger flux which wets through dirt, rust and grease. Tinning action is completed at the exact moment the surface oxides are suspended. It goes on like butter.

Copper pipe and sweat fittings can be worked without pre-cleaning. Bearings impregnated with oil can be tinned. Stainless steel sinks and drains can be soldered. Dissimilar metals may be joined—monel to stainless; brass, bronze to cast iron; or copper to steel. Any combination except aluminum may be joined.

FAS-TIN is also stable. It will not cake or lump when exposed to atmosphere. The metal stays in suspension; no stirring necessary. There is no deterioration and no free mineral acid to cause corrosion. Inexpensive coverage: 25 square feet per pound.

FAS-TIN is packed in 2 lb. cans at $4.30 f.o.b. Philadelphia, Pa. less 10% in 6 can lots.

Have you tried #1 Acid Brushes, 25% more hair, $3.60 per gross fob Phila. *Advt.*

FARRELLOY COMPANY
1246 North 26th St. Philadelphia 21, Pa.

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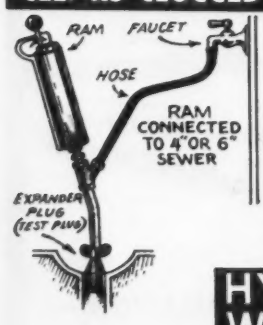
CLEARS CLOGGED DRAINS in Seconds!



The ideal plumbing service tool. Can pay for itself in one application!

Smashes through the most stubborn blockages, then flushes clean — all in one operation!

Comes equipped with self-contained manual compressor (can charge Ram to 100 lbs. in 30 seconds!) and drain adaptors in 6 sizes!

HYDRAULIC WATER RAM

Anyone can operate it! Thousands already in use, have saved *millions* of dollars in industry and institutions. Why lose time, suffer inconvenience, waste dollars needlessly on either completely blocked or slow-moving sewers, drains, fixtures? The HYDRAULIC WATER RAM clears severest stoppages with SPLIT-SECOND HYDROSTATIC IMPACT! . . . Shatters blockage, then flushes clean. No snakes, chemicals, cables. No pushing through. Works perfectly, *vent or no vent!* Nothing to wear out. You risk nothing on our 30 day free trial offer, at our expense. Write for details.

Works perfectly with all clogged fixtures, toilets, sinks, urinals, etc. Equipped with 4" rubber cone, ideal for toilets, *plus* set of 5 tapered adaptor plugs for other drains or sewers.

Write for Information, Prices, Free Trial Offer — Today!

HYDRAULIC MANUFACTURING CO.
138-5 Hurd Avenue Bridgeport 4, Connecticut

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NEW MATERIALS AND PROCESSES

LIQUID LEAK DETECTOR
for pressurized air or gas lines

Fine bubbling action of Snoop liquid leak detector detects even minute leaks in pressurized air or gas lines. Product is offered in an 8-oz polyethylene squeeze bottle with a 1/8-in. tube that is adjustable from 1/2 to 12-in. length. A thin, solid stream of liquid is applied to test each line connection. Bubbles form immediately if leak is present. Solid stream serves to avoid the earlier problem of bubble formation from spraying. • **Nuclear Products Co.,** 15636 Saranac Rd., Cleveland 10, Ohio.

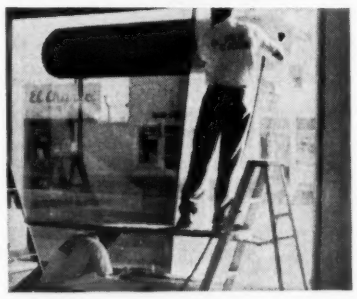
▲ For more details circle NED-1067 D1 on enclosed inquiry slip ▲

BELT DRESSING
packaged in 16-oz aerosol can

Leather, rubber, canvas, and other fabric belts in flat, round, or V-styles can be treated with No. 607 belt dressing. Packaged in a 16-oz aerosol can, it makes possible power increases of up to 50 per cent on belt drives. Dressing will not glaze, collect dirt or dust, and cleans belts of accumulations. It can be used outdoors and under wet conditions. • **Sprayon Products, Inc.,** Industrial Supply Div., 2075 E. 65th St., Cleveland 3, Ohio.

▲ For more details circle NED-1068 D1 on enclosed inquiry slip ▲

INDUSTRIAL PLANT SUNSCREENS
glare preventive is flowed on glass



Applied to any window or glass surface, Sun-Chek is a permanent, transparent coating that is flowed onto the surface to reduce glare and heat from the sun. Treated glass absorbs up to 100 per cent of the ultraviolet rays of the sun. Tinting also reduces radiant heat loss from within the building during cold weather. Coatings are offered in a range of colors, including frosted and clear shades. • **Sun-Chek Co.,** 166 Saratoga Ave., Los Gatos, Calif.

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WONDERFUL WORLD OF WHIRLING WHEELS

Here's a new adventure in optical impressions—created by the magical effect of these fascinating, rotating discs. In addition to weird shapes and fantastic "after images" this kit demonstrates "stop motion" stroboscopic principles—"off center" focus and even hypnotism. Kit includes 13 discs, approx. 5" in dia. battery holder, rheostat, small motor mounted on bracket, bulb, socket, plug and complete booklet of instructions and experimental use.
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Do a crystallography project illustrated with large beautiful crystals you grow yourself. Kit includes the book "Crystals and Crystal Growing" and a generous supply of the chemicals you need to grow large display crystals of potassium aluminum sulfate (clear), potassium chromium sulfate (purple), potassium sodium tartrate (clear), nickel sulfate hexahydrate (blue green) or heptahydrate (green), potassium ferricyanide (red), and copper acetate (blue green).
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War surplus—Alnico V-type! Horseshoe shape. Tremendous lifting power. 5 lb. size. Dimensions: A—3¼"; B—2¾"; C—4-3/16"; D—1¼"; E—1¼"; F—2⅝". Strength is about 2000 Gauss. Will lift over 125 lbs.
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STEREO MICROSCOPE—Terrific Buy! American Made! Up to 3" Working Distance—Wide 3 Dimensional Field. Used in production, in research, or at home. 2 sets of objectives on rotating turret. Standard pair of wide field 10 × Kellner, Eyepieces give you 23 power and 40 power clear, sharp, erect image. Helical rack and pinion focusing. Interpupillary distance adjustable. SO GOOD WE'LL SHIP ON 10-DAY FREE TRIAL.
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EDMUND SCIENTIFIC CO., Barrington, N. J.

▲ For more details circle NED-1070 D1 on enclosed inquiry slip ▲

what's so different about these time/delay/relays?

AGASTATs are unique. They're *pneumatically* operated, but electrically actuated—they recycle instantly, are unaffected by voltage variations, and provide easy adjustment over 1-o-n-g time ranges. Just a few moving parts, with service life measured in millions of cycles!

Industrial models (left) are dial-adjusted for delays up to 15 min., or with needle valve adjustment. Miniature Agastat on right weighs only 15 oz., in hermetically sealed or unsealed types, for MIL Spec or other demanding applications.

AGASTATs are available in single- or double-pole versions, with delay on pull-in or drop-out. For details write Dept. 12-104

ESNA ELASTIC STOP NUT CORPORATION OF AMERICA
ELIZABETH DIVISION • ELIZABETH, NEW JERSEY
IN CANADA: ESNA CANADA LTD., 12 GOWER ST., TORONTO 16

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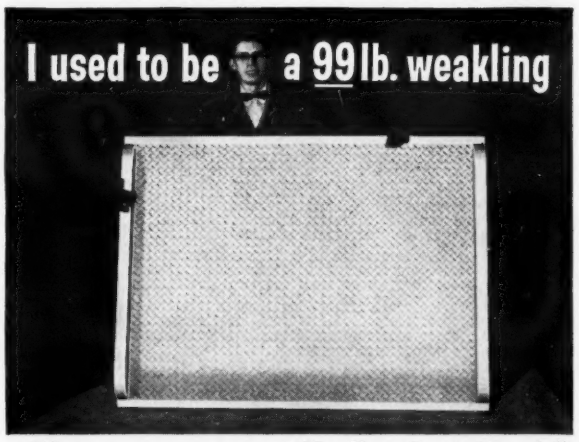
I used to be a 99 lb. weakling



..."then my company got Magliner Dock Boards"

"I'm still a 99-lb. weakling, but you should see me handle a Magliner Dock Board. It was a lucky day when the Magline Man told my boss about Magliners . . . how tough and light they are. When he heard that they're 33% lighter than aluminum and 75% lighter than steel, the boss took one look at me and ordered some Magliners on the spot. They sure made my job easier, and it seems like loads move in and out in half the time now.

"Bet the company is saving plenty, too. I just got a raise!"

For the complete story on rugged, lightweight Magliner Dock Boards, write today for Bulletin DB-204

MAGLINER
MAGNESIUM DOCK BOARDS
Magline Inc., P. O. Box 64, Pinconning, Michigan

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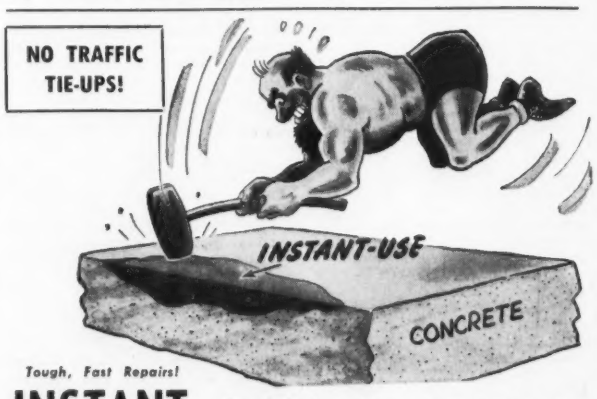
NO TRAFFIC TIE-UPS!



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Get FREE Brochure!

INSTANT-USE

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Please send me complete INSTANT-USE information and Free INSTANT-USE BROCHURE—no obligation. (Clip and attach Coupon to company letterhead.)

Name .....
Title .....
Company .....
Address .....

▲ For more details circle NED-1073 D1 on enclosed inquiry slip ▲